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Journal of the Society of Arts.

FRIDAY, JANUARY 16, 1857.

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CONVERSAZIONI.

The Council have arranged for two Conversazioni for the Members of the Society and their friends, the first to take place on Saturday, the 21st of February, to which ladies will be invited; the second on Wednesday, the 6th of May, to which gentlemen only will be invited.

NINTH ANNUAL EXHIBITION OF INVENTIONS.

The Council have fixed Monday, the 23rd of March next, for the opening of the Ninth Annual Exhibition of Recent Inventions.

Persons intending to contribute to the Exhibition should communicate with the Secretary forthwith, stating—

1. The title of the invention.
2. Whether the article will be a specimen, model, or drawing.

Articles for exhibition must be forwarded to the House of the Society, *carriage paid.* The days for receiving articles are, Thursday, the 5th, Friday, the 6th, and Saturday, the 7th of March.

All articles should be accompanied with a short description of the invention, for the Catalogue, with a wood-block (when possible), and a reference to any publication where a fuller account may be found.

SIXTH ORDINARY MEETING.

Wednesday, Jan. 14, 1857.

The Sixth Ordinary Meeting of the One Hundred and Third Session was held on Wednesday, the 14th inst., William Schaw Lindsay, Esq., M.P., in the chair.

The following Candidates were balloted for, and duly elected members of the Society:—

Gordon, Col. W. J., C.B., R.E., &c.
Henderson, John.
Keppell, George.
Humphry, William Gilson.
Long, J. A.
Parsons, Thomas.
Ranken, Charles.
Vandeleur, Major Arthur, R.A.
White, Lynch.
Wilcox, Thomas.

The following Institutions have been taken into Union since the last announcement:—

425. Netherton (near Huddersfield), Mechanics' Institution.
426. Clayton Le Moors Institute.
427. Birmingham and Midland Institute.
428. Painswick (Gloucestershire) Mechanics' Institution.
429. Athenæum (Cheltenham).

The following Colonial Institution has been taken into Union since the last announcement:—

Saint James (Jamaica) Society of Industry and Arts.

The following School has been taken into Union since the last announcement:—

Alverthorpe Hall School (near Wakefield).

The Paper read was:—

ON BRITISH HONDURAS, ITS HISTORY, TRADE, AND NATURAL RESOURCES.

By Mr. Chief Justice Temple.

It may appear to be a somewhat bold and presumptuous undertaking on my part, to address an audience upon the valuable commercial resources of a country which has never been mentioned without a sneer, and the utter worthlessness of which has been broadly stated,—of a country which has invariably been spoken of in terms of scorn and contempt, and that, too frequently, with great ingratitude, when the legs of the speaker are comfortably resting under its mahogany, and he is imbibing inspiration from the juice of its logwood, which he fondly imagines to be port. Until a very short time ago, most persons entertained very vague ideas with respect to Honduras. Some thought it was a cluster of islands in the Eastern Archipelago, some believed it to be in Africa, and some thought it not impossible that it might be in the moon, but all agreed that, wherever it was, it was full of swamps, frogs, and toads, and venomous reptiles. The latter impression, to a certain extent, is no doubt sufficiently well founded. There would be no use in denying the existence of swamps; with respect to the toads, St. Patrick would have found abundant employment,—and the venerable Abbess St. Hilda, who cut off the heads of all the snakes in the neighbourhood of the virgin sisterhood over which she presided, would, if she could rise out of the stone coffin in which her valuable relics were deposited, confer a great benefit upon humanity by visiting that portion of the American continent. But we must not hastily condemn a country on account of these trifles, for even in Ireland, that "gem of the sea," I have heard of bogs,—in happy England, not only toads,—but *toad-eaters* abound,—and snakes in the grass are to be found everywhere.

In attempting to deal with this subject, it is not my purpose to enter into any political considerations connected with the colonies, still less is it my intention to indulge in any tirades against the British government, past or present, for indifference to their requirements, and injustice to their claims. It is my conviction that every administration, be it composed of whom it may, will be as solicitous for the welfare and prosperity of our colonies, wherever they may be situated, as of any other portion of the empire; and if latterly some of them have drooped, and ceased to be as flourishing as they once were, the cause of that temporary decline must be sought for, not in the legislative measures of the home government, but in the supineness, inertness, and despondent disposition of the colonists themselves, who have shown themselves deficient in that protean quality which would enable them when an old commercial channel became dried up and profitless, to apply themselves with vigour and determination to the task of opening new ones. I say it is not my object to dwell upon these topics, to chant with melancholy cadence, and in doleful numbers, the sad and sorrowful condition of the colonies, nor to inveigh in ireful strains against the alleged authors of their ruin, but, in plain and simple language, to bring under your notice a possession of the British crown, hitherto but little known,—to describe its geographical position,—state its dimensions,—give a brief account of its history,—make you acquainted with the nature of its soil,—its various animal and vegetable productions,—its general commercial capabilities,—and exhibit a new and a wide field for enterprise, skill, industry, and capital. To do full justice to the subject which I have had the presumption to take in hand, would require more time than you can now spare, or is allowed me, but I trust, with your indulgence, I shall be able to state quite sufficient to convince you that Honduras is capable of producing something besides mahogany and logwood, that swamps and creeping things are not its chief characteristics, and that to the man of energy and will it is capable of yielding a rich reward.

The bay of Honduras is formed by two headlands, the extremities of which are Cape Catoche, on the north, in Yucatan, and Cape Gràcios a Dios, on the Mosquito coast, on the south. At the very bottom of this bay, at the most westerly point, is situated British Honduras, between 16 and 18 deg. N. latitude, and between 88 and 90 deg. W. longitude. The latter, however, cannot be stated with any degree of certainty, as the inland or western boundary has never been clearly ascertained. It is stated that a place called Garbutt's falls, near the head of the Belize river, is a point of limitation, and that the distance between it and the sea coast is 180 miles, hence it has rather hastily been concluded that British Honduras extends in a westerly direction from 180 to 200 miles. The length of that river, however, is no criterion, for in its progress to the sea it pursues a north-easterly course. Its length, measured upon the map as the crow flies, is about 125 miles, but its source is at least 50 miles southward of its mouth.

The northern boundary of Honduras on the seacoast, is the river Hondo, which separates it from Yucatan, and the southern boundary, the river Sarstoon, which divides it from the state of Guatemala. Mr. Montgomery Martin says that the coast line extends about 270 miles, but that I apprehend is a mistake. The distance from the river Hondo to the river Sarstoon, as measured upon the map as the crow flies, is not more than 160 miles, but if allowance be made for the sinuosities of the coast it will amount to about 200 miles. The breadth of Honduras in its widest part is not above 60 miles. This is a very respectable extent of territory. It is 35 miles longer than Jamaica, the largest and most important of our West India islands, and 20 miles broader. The approach to Honduras through kays, rocks, and coral reefs, is extremely difficult and dangerous. For nearly sixty miles your course lies through intricate passages, amongst innumerable islets, covered to the water's edge with an impervious mass of vegetation, principally of mangrove trees, through narrow channels on each side of which are steep walls of coral, and along smooth unrippled waters which are sometimes of the most heavenly blue, and sometimes of the brightest green, and so clear that you may distinctly see the varied inhabitants of that portion of the deep, turtles grazing like sheep in a pasture, here and there a shark prowling about, pyramids of conchs, and hundreds of dolphins, not those time-honoured admirers of music which bore Arion safely across the waves, but those modern fishes of changeful hues which have so often supplied dramatic writers with a simile when they have introduced a son of Neptune upon the stage. Some of the kays or islets which I have mentioned look extremely beautiful from the sea, having a smooth gravelly beach, yellow as the golden sands of Pactolus, on which the blue water breaks in mimic waves, producing a snow-white fringe of foam, small groups of waving cocoa nuts scattered about, and here and there a thick grove of mangrove trees, which appears to offer an agreeable retreat from the noon-day sun. On observing these exquisitely beautiful spots for the first time, one feels disposed to exclaim—

> "Fair scenes for childhood's opening bloom,
> For sportive youth to stray in,
> For manhood to enjoy his strength,
> For age to wear away in."

If, however, we had the curiosity to land, we should find that our rapture was premature and our poetry thrown away; mosquitos and sandflies are stern realities, which admit of no compromise.

The masters of vessels bound to Belize, generally make the west end of the island of Ruatan in the evening, where they lie-to the greater part of the night, in order that they may arrive at Half-moon Kay at day-break, the distance from which is about 60 miles. This gives them the whole of the day to thread the numerous narrow channels through which their course lies. At Half-moon Kay there is a lighthouse, 70 feet high, the light of which can be seen at a distance of 20 miles. The lamp is kept burning the whole of the night, and may always be depended upon. At this kay a pilot is taken, without whom it would be impossible for strangers to proceed with safety. To the south-west of Half-moon Kay there is a small island, covered with mangrove bush, called Hat Kay, from its resemblance to that covering of the head. From this Kay a coral reef, three miles long, extends, which has often been fatal to vessels. They next make a little island called Kay Bokel, which has upon it a few cocoa-nut trees, from which, steering in a south-westerly direction for 12 miles, they arrive at another small island, called English Kay, and pass to the north of it, between it and Goff Kay. They are then 14 miles from Belize. On English Kay there is a flagstaff, to the top of which, the instant a sail is descried, the Union Jack is hoisted, which, with a good glass, can be seen at Belize, where a flag is also displayed, to inform the good people that a ship is coming in. The custodian of this flagstaff is generally some old black sergeant or corporal, who is thus provided for for the remainder of his days. He cannot wander far from the scene of his duties, for the island is not more than 100 yards in circumference. Several years ago, ship after ship came in without having been signalised. This occasioned at first considerable surprise, but it was soon discovered that the poor old man had died, literally at his *post*. The route which I have described is the one which is generally taken, but in the season when the north wind prevails, it is not considered a good one, for the vessels have then to beat all the way to English Kay, which is not a very safe or easy operation in those narrow channels. At that period of the year, therefore, the captains of vessels think it better, instead of Half-moon Kay, to make Mauger Kay, where there is also a lighthouse, from which they may sail to English Kay, a distance of 18 miles, with a fair wind. Vessels come to an anchor about a mile from the town, in about three fathoms water, but vessels of a very large size are obliged to anchor much further off. For nearly 50 miles vessels may lie, in the most boisterous weather, in perfect safety, for a natural breakwater, consisting of reefs and kays, runs along the whole coast. During the norths, which sometimes come down with great impetuosity, they occasionally drag their anchors, but they seldom sustain any serious damage. The appearance of Belize from the sea is extremely striking. Mr. Stevens, in his "Incidents of Travel," compared it to Venice, but I have often looked in vain to discover the slightest resemblance to that "sea-born city." At the embouchure of the river there is a steep wooden bridge, which, by an extraordinary effort of the imagination, may be compared to the Rialto; and there is a timber court-house, with a cupola at the top of it, in which a poet, "his eye in a fine frenzy rolling," may perceive a likeness to the church of St. Mark. But a common-place mind will discern as much similarity between Belize and Venice, as there is between a horse chesnut and a chesnut horse. But, repudiating altogether such lofty comparisons, Belize has, from a distance, a very pretty and picturesque appearance. The church, with its little spire rising amidst a grove of tamarind, almond, and mango trees—the Court-house, with its cupola and flagstaff, from which the Union Jack is flying—the Government-house, with another flagstaff and another Jack—the white, yellow, blue, green, and red houses, interspersed with mountain cabbage and cocoa-nut trees

—Fort George, a small island with half-a-dozen guns upon it, the sole use of which seems to be to fire salutes in honour of the Queen and the superintendent, or some distinguished visitor who is entitled to that noisy welcome, with a third flagstaff and a third Jack (they delight in flags in that country)—all these combined have a very pleasing effect, but they form a picture as unlike as possible anything which may be seen in Europe.

The whole coast of British Honduras, for two or three miles inland, is low, flat, and swampy. But in making use of the word swamp, I do not mean bog, or morass, but, simply, in consequence of its being frequently overflowed with water, a soft, moist, and spongy soil. But the soil itself is a rich, black loam, admirably adapted to the cultivation of rice, and, by drainage, capable of being made equal to any soil in the world. In ascending the rivers, the land gradually rises and assumes a totally different character, becoming a stiff clay. For ten or fifteen miles up the river there is a bank on each side varying in breadth, being sometimes a mile, and sometimes only fifty yards, which is entirely an alluvial deposit, which has been washed down from the mountains in the course of centuries by the heavy floods which occur in the rainy seasons. One of these banks on the the Belize river, belongs to Dr. Young, an intelligent and scientific practitioner of medicine, who has resided for many years in that country. Sometime ago, wishing to drain some swampy land on his property, he dug a deep and wide trench through this alluvial deposit, throwing up the earth on each side. In the course of a little time after the rains and the sunshine had fallen upon this newly exposed earth, he observed with astonishment a plant which he had not seen since he was a student at the University of Edinburgh, and which he greeted as an old friend.—This plant was the Scotch thistle—a perfect stranger in that country. Parallel with these banks there are large tracts of country called pine ridges, in which thick forests of red pine grow in a thin sandy soil. These arid tracts are the abode of vast herds of deer and antelopes, of warrees, and peccaries. The cougar, the jaguar, and the ocelot, with a proportionate sprinkling of snakes, also honour them with their presence. As you proceed still higher, you arrive at long strips of land of again a very different description. These are called cahoun ridges, and on them are found growing, in a rich, deep, loamy, upper soil, being a vegetable incrustation formed of the decomposed withered leaves of thousands of years—in rank luxuriance the cahoun palm. Beyond these ridges, the country spreads itself out in wide savannahs, with here and there thick clumps of tall spreading trees, contrasting with rich green slopes of pasture land, and through these extensive plains fertilizing streams wind in every direction. The country to the south of the Belize river is of a bolder character. The Manati hills, from amongst which the river of that name flows, are from 800 to 1,000 feet above the level of the sea, and the Cockscomb mountains, where the river Sittee has its rise, are 4,000 feet above the level of the sea. There is perhaps no country which, considering its extent, contains so many natural channels of communication, in the shape of broad navigable rivers, tributary streams, and fresh water lagoons. From the northern to the southern boundary there are sixteen wide, deep, magnificent rivers, capable of being navigated by large vessels for a considerable distance inland. They are the Hondo, the New River, Northern River, the Belize River, the Sibun, the Manati, Mullins River, Sittee River, Monkey River, Deep River, Middle River, Rio Grande, Golden Stream, Moho River, the River Termash, and the River Sarstoon. Many of these rivers run a great distance before they fall into the sea. The Sibun, without taking into consideration its numerous windings, runs in a direct line about 60 miles. The Belize river about 90, and the river Hondo about 130. Of the Belize river there are not less than five great branches. In the Manati and Sibun rivers there are long passages through the rocks into which the water flows, and forms spacious subterranean lakes. On entering into these nether regions, holding in his hand a blazing torch of red pine, the traveller is forcibly reminded of the descent of Æneas into the realm of Pluto, and his guide, who is perhaps some ancient crone, with black shrivelled face, blear eyes, and matted woolly hair, is no bad representation of the Cumæan Sybil. But when his light skiff is fairly launched into the still, deep, black waters of that mysterious retreat, a feeling of awe comes upon him. Overhead magnificent stalactites hanging from lofty arches, on all sides splendid crystals of various hues—festoons of moss and leaves sparkling with trickling drops of water—the red flame of the torch—the noise of the paddle dipping into the water and echoed from unseen caverns—the plunge of some wild animal disturbed in its lair, and sometimes fiery eyeballs glaring upon you from some near recess, produce a strange sensation of fear, wonder, and admiration. Captain Henderson, who published a short account of Honduras in 1809, thus describes the Sibun caves:—

"On a branch of the river Sibun, named Indian Creek, are situated the caves; these are subterraneous passages, which have been formed at the base of three or four mountains of very considerable height, no doubt by the force of the current of water, which probably for many centuries has forced its way through them. The largest of these passages is somewhat more than a quarter of a mile in length, though in this country it has a greater extent given to it. It would certainly require no common powers of description to delineate with fidelity the exquisite beauties connected with the largest of the caves. The entrance to it from Indian Creek, after many windings, bursts suddenly on the sight, and resembles very closely the aperture of an oven, and is thickly overhung with rocks and trees of the grandest but wildest workmanship. When this is passed a wide and spacious lake immediately commences, the water of which is silent and deep, being scarcely heard to murmur but during the most tempestuous floods. The lofty roof is arched with the most exact proportion, and is profusely studded with glittering crystallisations. Torch light affords the visitor the only means of advantageously viewing this sublime piece of scenery; for if, in one or two places, an occasional beam of the sun, bursting with inconceivable lustre through the clefts of the mountain, be withdrawn, entire darkness pervades the whole, and the smallest sound made in passing being quickly loudly reverberated, is forcibly calculated to strike the ear with a feeling of solemn grandeur."

The seasons, like most tropical countries, are the wet and the dry; the former commences in the month of June, and continues until the end of February. The latter begins in the month of March, and ends in the first week in June. During the dry season there is scarcely ever a drop of rain; the ground becomes parched and hard, and vegetation ceases, except where streams and creeks irrigate the land. The wet season is ushered in with violent winds from the east, torrents of rain, and the most terrific thunder and lightning, which sometimes continue night and day for three or four days together. Whilst these dreadful storms are hovering about, the lightning is incessant, and the whole night long, though the moon hides her face, and not a star is visible in the heavens, is almost as light as day from the continued outpouring of the electric fluid. There is this peculiarity in the thunder storms in that country, which I have not observed in more northern latitudes. The rain and the wind begin, the former coming down apparently not in drops, but in sheets of water. During this violence there is no lightning—no thunder. In about ten minutes there is a lull, the wind is hushed, the rain has ceased; there is a death-like silence; the sea and the sky appear to be one substance of a dark leaden hue, and thin feathery clouds, agitated by an unseen power, dance to and fro; not a leaf moves, not a bird stirs,—all nature pauses in breathless expectation; then comes the flash, which seems to tear the heavens in twain, followed instantaneously by an explosion, which all the artillery in the world, and at every period of the world, from the first cannon which was fired at Cressy to the last which was discharged at Sebastopol, collected together, could not equal. As it dies away in distant reverberations the wind again rushes forth with unrestrained vehemence, and the deluge again descends. It must not be supposed, however, that because nine months in the year are denominated the wet season, that it is always raining during that period. After the first three weeks of that season there is much fine weather, it being sometimes perfectly dry for a month together, and there is very little thunder and lightning after the first appalling fit. The heaviest and most continued rain, but unaccompanied by thunder, falls in November, December, and January, when cold north winds prevail. A record of the rain which fell in the year 1848 will give an idea of the average amount.

April		
May	$2\frac{5}{10}$	inches.
June	$4\frac{3}{10}$	,,
July	$3\frac{3}{10}$	,,
August	$0\frac{6}{10}$	,,
September	$8\frac{2}{10}$	,,
October	$4\frac{8}{10}$	,,
November	$9\frac{6}{10}$	,,
December	$6\frac{7}{10}$	,,
January	$2\frac{7}{10}$	,,
February	$4\frac{2}{10}$	,,
March		

The temperature ranges from 68° to 86°, although it is sometimes as high as 90°, and sometimes as low as 56°. The following is a table of the temperature of the year before mentioned:—

	Max.	Min.
April	89°	74°
May	89	75
June	90	77
July	90	78
August	90	78
September	91	76
October	87	75
November	85	68
December	86	75
January	82	66
February	85	73
March	83	75

British Honduras appears to be out of the range of hurricanes, which generally expend their violence upon the Windward Islands; and earthquakes, which have at different periods caused such havoc in the Central American States, never exhibit themselves beyond a very gentle trembling of the ground, too slight to do any injury. The climate is exceedingly damp, but that arises principally from the circumstance of the country being for the most part uncleared. Epidemics (with the exception of cholera, which is no respecter of places) never visit Belize. Cases of yellow fever do frequently occur, but they make their appearance like any sporadic complaint—never assuming an endemic character. It might be inferred from this circumstance that Honduras is a very healthy country, but such is not the case. The climate commits its ravages upon the human constitution quietly, silently, insidiously. It is a sapper and miner, and carries on its work of destruction unseen, and almost unfelt, and its effects are only perceived when the hair drops off, the teeth decay, the vision becomes impaired, and the physical and mental energies succumb. However, there can be little doubt, that if the country were cleared, and cultivation more extended, the causes of this gradual and imperceptible decline of the constitution would be in a great measure removed. Much also depends upon the mode of life. If a person is prudent and temperate in his style of living, he may, to a great extent, escape the enervating influence of the climate. There is a gentleman in England at this present moment, 85 years of age, who lived in Honduras for upwards of 40 years, during which time his occupations frequently took him amidst the most unhealthy localities. But, unfortunately, Honduras is a country where all kinds of intoxicating liquors are very cheap, and where a man is always thirsty. The consequence is obvious. The prevailing disease is, in reality, alcohol. Take away that pernicious fluid, and men would live as long in the tropics as in European climates.

At a very early period, as far back as the Protectorate, the various kays in the Bay of Honduras were the resorts of pirates and buccaneers; and many a wild adventure, many a midnight carouse, many a deed of blood, have those little isles been witness to, when Dampier and other free companions of the ocean committed their depredations in the Carribbean Sea. That celebrated navigator, who wrote an account of his voyage to the Bay of Honduras, in the year 1674, gives some amusing sketches of the proceedings of those early settlers. Speaking of the logwood trade, he says:—"This trade had its rise from the decay of privateers; for, after Jamaica was well settled by the English, and a peace established with Spain, the privateers, who had hitherto lived upon plundering the Spaniards, were put to their shifts, for they had prodigally spent whatever they got, and now, wanting subsistence, were forced either to go to Petit Guavas, where the privateer trade still continued, or into the Bay of Logwood. The more industrious of them came hither; yet even these, though they could work well enough if they pleased, yet they thought it dry business to toil at cutting wood. They were good marksmen, and so took more delight in hunting; but neither of those employments affected them so much as privateering; therefore, they often made sallies out in small parties amongst the nearest Indian towns, where they plundered and brought away the Indian women to serve them at their huts, and sent their husbands to be sold at Jamaica; besides, they had not their drinking bouts forgot, and would still spend £30 or £40 at a sitting aboard the ships that came hither from Jamaica, carousing, and firing off guns three or four days together, and though afterwards many sober men came into the bay to cut wood, yet by degrees the old standers so debauched them, that they could never settle themselves under any civil government, but continued in their wickedness till the Spaniards, encouraged by their careless rioting, fell upon them, and took most of them singly in their own huts, and carried them away prisoners to Campeachy or La Vera Cruz." The same author gives an amusing account of one of their drinking bouts. He says—"As soon as we came to anchor we sent our boat ashore to buy provisions to regale ourselves after our long fatigue and fasting, and were very busy going to drink a bowl of punch, when, unexpectedly, Captain Rawlins, commander of a small New England vessel, and one Mr. John Hooker, who had been in the bay a twelvemonth, cutting logwood, and was now coming up to Jamaica to sell it, came aboard, and were invited into the cabin to drink with us; the bowl had not yet been touched (I think there might be six quarts in it), but Mr. Hooker being drunk to by Captain Rawlins, who pledged Captain Hudswell, and having the bowl in his hand, said, that he was under an oath to drink but three draughts of strong liquor a day, and putting the bowl to his head, turned it off at one draught, and so making himself drunk, disappointed us of our expectations, till we made another bowl."

It is generally believed (what will people not believe?) that stores of treasure, the illgotten wealth of those bandits of the deep, are hidden amongst the kays in the bay of Honduras; that huge sea chests, studded with nail and clamped with iron, containing old doubloons and dollars, ingots of gold and silver, antique dresses of silk and velvet, with slashed sleeves and point lace, ancient guns and swords, curiously carved and richly mounted pistols, costly jewels, and all the other heterogeneous materials of a pirate's cave, lie imbedded in their lonely beaches. It has been supposed that the river Belize was called after one of these pirates, a Scotchman, named Wallis, but that is not at all probable. Rivers and mountains seldom lose their ancient names, and that river has always been called Belize by the native Indians. About 60 miles to the west of the British settlement there is a large lake called Itza, in the middle of which are the ruins of what was once a magnificent city called Peten. When Hernando Cortez visited this lake, the city was in all its glory. A considerable extent of country around the lake is called the country of the Itzas. A river flows into the gulf of Dulce, called Isabal. Belize and Isabal appear to me to have been the same name, the one Bel, or Bal-itza, and the other Itza-bal. It is not improbable that the ancient Itzas were worshippers of Isis or the moon, and that the inhabitants of the region about Bel-itza and Itzabal were worshippers both of Bel and Isis, that is of the sun and moon. But this may be all imagination. To return, however, to our free-traders, they soon made the discovery that the country in which they were unlicensed settlers, was rich in the spontaneous production of various dyewoods, of which logwood was the chief. It was not to be expected that men who made no scruple in plundering and murdering the subjects of his most Catholic Majesty, would hesitate to rob his Catholic Majesty himself. They accordingly laid aside the cutlass as an implement of war, and shouldered the axe, and began in good earnest to cut down the logwood of the King of Spain. The woodcutters of the present day never go into the bush without a machete to clear away the underwood, and protect them against the attacks of wild animals. This machete is in reality a heavy cutlass, and there is no doubt it descended from their piratical ancestors. It was no use for the King of Spain to sing "Woodman spare that tree," the marauders went merrily to work cutting down his logwood, which they sent to England, where it fetched a high price. Captain Dampier says—"It was worth from £100 to £110 per ton." At first they did not know the value of it, and Dampier says:—"After the English had taken Jamaica and began to cruise in this bay, they found many vessels laden with it, but not knowing its value then, they either set them adrift, or fired them, saving only the nails and ironwork, a thing now usual among the privateers, taking no notice at all of the cargo, till Captain James having taken a great ship laden with it, and brought her home to England, to fit her for a privateer, beyond his expectation sold his wood at a great rate, though before he valued it so little that he burned of it all his passage home. After his return to Jamaica, the English visiting this bay, found out the place where it grew, and if they met no prize at sea, they would go to Champeton River, where they were certain to find large piles cut to their hand and brought to the sea side ready to be shipped off. This was their common practice, till at last the Spainards sent soldiers thither to prevent these depredations." In a short time an exceedingly profitable trade was established with this country in that article. The buccaneers now settled down as regular traders, cutting wood and shipping it to England in a perfectly mercantile manner, but still so far adhering to their old practices, that they never hesitated to seize by violence what was not peaceably conceded to them.

The forcible occupation of a large tract of country, avowedly in the territory of the King of Spain, was not at first openly defended, although not disapproved of by the British Government, for the dyewoods which it produced in great abundance were objects of no slight importance to English manufacturers. They were at length, after many struggles, so firmly settled, that Spain, which had then begun to display evidences of its decaying strength, was compelled to acknowledge them, and by the treaty of Madrid in 1670 it was agreed "that the serene King of Great Britain, his heirs and successors, should have, hold, keep, and enjoy for ever, with plenary right of sovereignty, dominion, possession, and propriety, all those lands, regions, islands, colonies, and places whatsoever, being or situated in the West Indies or in any part of America, which the said King of Great Britain and his subjects do at present hold and possess, so that in regard thereof, or upon any colour or pretence whatsoever, nothing more may or ought to be urged, nor any question or controversy be even moved concerning the same hereafter."

Notwithstanding this treaty, the Spanish inhabitants were determined if possible to drive the English out of the country, and frequent and bloody skirmishes took place between the two people, which almost always ended to the disadvantage of the former.

At length, in the month of April, 1754, the Spaniards were determined to make a vigorous attempt to dislodge the English, and conscious of their inability to approach them from the sea, owing to their ignorance of the numerous reefs and shoals, which rendered the navigation of those waters extremely difficult to any but those who were intimately acquainted with them, they resolved to attack them from the land side, and for that purpose assembled a large force at the city of Peten. Fifteen hundred men were marched against the English, and were encountered by a gallant band of 210, the greatest portion of whom were slaves, and completely defeated. Before the arrival of the main body of the English, eight men defended a small fort for two days against the attack of the whole Spanish force. After this unsuccessful attempt of the Spaniards to dispossess the English of the country which they had appropriated, the latter were left unmolested for several years, and in 1763 a treaty was signed at Paris, by which it was agreed on the part of his Britannic Majesty that all fortifications in the Bay of Honduras, erected by his subjects, should be demolished, and on the part of his Catholic Majesty, that the English should not be disturbed in their occupations of cutting, loading, and carrying away logwood. To insure the observance of this treaty the British Government sent out Sir W. Burnaby, who not only settled the limits within which the English were to confine their wood-cutting operations, but, following the example of "the great Lycurgus," as he was called on a recent occasion, he composed for them a code of laws, in which perhaps there was as much wisdom as in those of the Spartan legislator. They might, however, be sufficiently adapted to the rude people for whose government they were designed. Captain Henderson, writing in 1804, thus speaks of them:—"When these regulations were therefore enforced, it must be believed that it was merely intended that some direction or restraint should be employed on a description of persons who had before lived without respect to rules of any kind, and whose irregularities, murders, piracies, and atrocities of every sort, were continually perpetrated with a barbarous indifference, because punishment was unknown."

The British settlers were now, for several years, permitted to pursue their occupations in peace, and no doubt they continued, as their numbers increased, to make fresh encroachments on the Spanish territory. In all their encounters with the Spaniards they had hitherto been successful, but they were at length destined to experience a severe reverse of fortune. On the 15th of September, 1779, they were suddenly and unexpectedly attacked by a powerful Spanish force, and utterly defeated, and their moveable property was seized, their houses burnt, and they themselves loaded with chains and conveyed on foot to Merida, the capital of Yucatan, from which place they were after a little time marched to the sea coast and shipped to Havana. When they arrived at that city they were thrown into dungeons, where great numbers of them perished. In 1782, those who had survived the cruelties which had been practised upon them were liberated and permitted to go to Jamaica. For three or four years the settlement appeared to be broken up, but in 1783 we find it again in full vigour. In that year a definitive treaty between Great Britain and Spain was signed at Versailles. By this treaty it was agreed that his Britannic Majesty's subjects should have the right to cut and carry away logwood within certain districts therein described, between the river Hondo and Belize. The treaty required that all subjects of his Britannic Majesty, who might be dispersed upon the continent, or amongst the islands dependent upon the continent, should, within 18 months, retire within the boundaries laid down, and it also stipulated that all fortifications which the English settlers might have erected should be destroyed.

Simultaneously with the Belize settlement, a similar one had been formed on the Mosquito shore,—but not for the purpose of logwood cutting, for there is no logwood to the south of the river Belize. The Mosquito Indians declared that they had never been conquered by the Spaniards, and they made a formal cession of their territory to the crown of England, at the time the Duke of Albemarle was governor of Jamaica. The Mosquito settlers did not confine their mercantile operations to the vegetable productions of the country—they dealt in another commodity, which, if not equally creditable was at least much more profitable. They trafficked in human flesh. Taking advantage of the wars which frequently occurred—and very likely stimulating them for their own atrocious purposes,—between the Mosquito men or Waikas and the other Indian tribes who lived in the interior of the country, they purchased of the former their prisoners taken in battle, and not improbably of the latter their Mosquito prisoners, for they do not appear to have been governed by any principles of honour or honesty, and sent them to Jamaica and other places where they were sold as slaves. Nothing more clearly shows the waning power of Spain at that time than the fact of a band of buccaneers and smugglers, persisting in maintaining forcible possession of a country, without any regular military force, and without assistance of any kind from their own government, in defiance of the remonstrances of that state and its attempts to dislodge them. If such proceedings had taken place in the palmy days of Spain,—if in the height of her military and naval renown,—when subjugating the Moors, conquering Mexico and Peru, rivalling France, and holding in prison one of the most valourous of the princes of that chivalrous nation, a horde of pirates had planted their feet upon any portion of her territory, they would very soon have been hurled into the sea. But the canker worm had commenced, and Spain was fast sinking to that depth of degradation which she has now fully reached. In 1741, the Jamaica House of Assembly passed an act which declared that Indians, who, after that time, should be imported into the island should be free, and all sales should be null and void, but provided that all persons who should be already seised of any Indian slaves should have power to sell or otherwise dispose of them in as full and ample manner as they might have done before the passing of that act. In the year 1776, the Superintendant and Council of the Mosquito shore passed a similar act. Up to the year 1821, a great number of these Indians, or their descendants, were slaves. In that year they presented a petition to Sir George Arthur, who was then Superintendant of Honduras, praying to be liberated. After a great deal of correspondence upon the subject, and an investigation conducted by commissioners appointed by the British government, it was decided that these poor creatures were legally held in bondage, but their emancipation, with compensation to their owners, was strongly recommended. This course was adopted.

But to return to the English settlers at Belize. In the year 1786, a fresh treaty was concluded between Great Britain and Spain. By this treaty, his Catholic Majesty, overflowing with sentiments of friendship and regard for his Britannic Majesty, grants to the English more extensive limits than those specified in the last treaty, for that only permitted them to cut logwood between the rivers Belize and Hondo, but this authorises them to occupy for that purpose the country between the Belize and the Sibun; and as a greater proof of his disposition to oblige the King of Great Britain, he grants to the English the liberty of cutting all other wood, without even excepting mahogany, as well as gathering all the fruits or produce of the earth purely natural and uncultivated, which might, besides being carried away in their natural state, become an object of utility or of commerce, whether for food or manufactures. It was agreed that nothing should be done by the English which should derogate from the right of the Spanish sovereignty, and it was also stipulated that the English should evacuate the country of the Mosquitos, and confine themselves within the prescribed limits. A Honduras author, who flourished some thirty years ago, and who no doubt inherited much of the spirit of the early settlers, thus quaintly remarks upon this treaty:—"His Catholic Majesty thought proper to grant formally to the British the right of cutting the mahogany, as well as the logwood, but which *right* they had, many years ago, *deemed fit* to take without his permission."

In the year 1787, in accordance with one of the stipulations of this treaty, the settlers on the Mosquito coast evacuated that territory, and came to Belize, with their families, slaves, and effects, thus adding very materially to the population, power, and wealth of the Honduras settlement. For several years things went on in the usual way, the Spaniards constantly attacking the English, and the latter making bloody reprisals. At length the Spaniards were determined, by an action vigorous and sudden, to put an end to these disputes, and drive those pertinacious Anglo-Saxons from their shores, or utterly exterminate them. With this view, on the 8th of July, 1798, they assembled a large force at Campeachy, in Yucatan, and with 13 vessels, containing 2,000 men, commanded by General O'Neill, set sail for St. George's Kay, leaving 3,000 men to follow in other ships. St. George's Kay is a small island to the north-east of Belize, about a mile in length, but in some places extremely narrow. This is covered with sand, or rather with very small fragments of shell, which is the material found upon all the kays scattered about that coast. Cocoa-nut trees grow luxuriantly, from one end to the other, and it might not inappropriately be denominated the "Isle of Palms." In the early periods of the settlement, St. George's Kay was the capital. Here were the principal houses, here were the stores, here was the seat of government, and here the vessels destined to carry to Europe mahogany and logwood were loaded. In more recent times, it has been used as a resort for invalids, for which the purity and salubrity of the air eminently adapt it. Some half-century ago, a Honduras writer, who must have imbibed large draughts of the Castalian fountain, gives the following glowing description of this blissful abode:—

"At some seasons St. George's Kay is frequented by the inhabitants of Belize, as a watering-place, at which time it appears more the habitation of a large united family, than a meeting of individuals of different pursuits and distinct interests, and where, without such adventitious aids as the blaze of an assembly, or the vanity fair of a pump-room, happiness is enjoyed in the *most compact form* that earth can exhibit."

From this captivating description of "compact happiness," we are led to infer that that blessed period had arrived in this oasis, when the wolf should dwell with the lamb, and the leopard lie down with the kid; and we are put in mind of those friendly societies and small family parties which are sometimes exhibited near the National Gallery or Waterloo-bridge.

I have stated that the expedition started on the 8th of July. On the 10th it approached near to St. George's Kay. The settlers, having got some intimation of the intended attack, had not been idle. Every description of boat which they had at hand was manned. On every reef and shoal a platform was placed, with a cannon upon it. The *Merlin*, an English sloop-of-war, happened fortunately to be there, and gave them assistance. When everything was prepared, the settlers, with a most heroic spirit, burnt all their houses and property upon the kay, and then poured a destructive fire into the Spanish flotilla. The battle raged two days and nights, with alternate success. The English fought with the dogged and determined spirit of their race; but they were materially assisted by their slaves, who displayed a most extraordinary courage and resolution. After a terrific slaughter on the Spanish side, a triumphant victory remained with the English. This was the last battle. Several of the settlers had previously, in contravention of the treaty, been turned out of the Northern Rivers. After their victorious encounter, they not only resumed their old possessions to the north of the Belize river, but considering the treaty to be now annulled by its violation by the Spaniards, with the knowledge and authority of their government, they seized the whole of the country to the south of that river, as far as the Sartsoon, of which they have held undisturbed possession until the present day. Any claim which the Central American States may set up to that territory, on the ground that they succeeded to everything which belonged to Old Spain, is simply absurd. From the year 1798, the English had shaken off the trammels of treaties, and taken forcible possession of the country, independently of Spain. The Central American States did not throw off the Spanish yoke until the year 1821. Nor was the conduct of the settlers in this matter unsupported by the British government Their gallant behaviour in defending their rights, and resisting so successfully an organised and powerful force directed against them by the Spanish government, gave so much satisfaction at home, that his Majesty directed the following communication, contained in a letter from the Duke of Portland to the Earl of Balcarres, dated Whitehall, 8th February, 1799, to be made to them:—

"I had great pleasure in laying before his Majesty the account you transmitted of the defeat of the Spanish flotilla, in its attack upon our settlement of Honduras.

"The able and judicious conduct of Lieut.-Colonel Barrow, Captain Moss of the *Merlin* sloop, the bravery of the troops and seamen under their respective commands, and the spirited exertions of the settlement in general on this occasion, have been such as to receive his Majesty's approbation, which your lordship is hereby directed to signify through Lieut.-Colonel Barrow, together with the just sense his Majesty entertains of their gallant and meritorious conduct."

The trade of British Honduras has hitherto been confined to logwood and mahogany; no cultivation to any extent has been carried on for the purpose of producing other articles of commerce. When, and under what circumstances, mahogany was first introduced into Europe it is not easy to say. Some have supposed that it was first discovered in the island of Trinidad by the carpenter of one of Sir Walter Raleigh's vessels. It is related that, the ship requiring some repairs, this officer went on shore to look for some wood for the purpose, which, having found, he cut and brought on board. When he came to work it up he was surprised at its hardness and beauty; and drawing attention to it, it was soon very greatly in demand for articles of furniture. This account is scarcely to be believed. There are many articles of furniture now in existence which were manufactured in the days of Elizabeth and the Stuarts, but I do not think one can be found which is made of mahogany. Some say it was not introduced into England until about 1802-3. It is said that a Mr. Gibbons, of London, had a brother who was master of a vessel trading to the West Indies, This worthy skipper, hearing that the doctor was building a new house in King-street, Covent-garden, very fraternally sent him a quantity of wood, which he had brought in his ship as ballast. This wood was so hard that the carpenters could not work it up, and it was thrown aside as useless. But one day Mrs. Gibbons, who, it appears, was a thrifty dame, and did not approve of burning candles at both ends, resolved to have a box made, in which those illuminators (I am afraid they were not Price and Co.'s) might be safely kept, and every fragment thereof carefully preserved, and she selected a piece of this rejected wood for the purpose, which turned out to be mahogany. When it was made and polished, it was so beautiful, and the Doctor was so pleased with it, that he determined to have a bureau made of the same material, in which he might deposit his fees. When the bureau was finished, it was shown to the Duchess of Buckingham, who was equally charmed with the wood, and she determined to have a case made in which she might preserve her jewels. By these quick gradations—from the candle-box of a citizen's wife to the jewel-case of a peeress—mahogany became known in England. This story, however, savours much of the style of that ingenious princess who managed to keep her head upon her shoulders by a series of amusing fictions.

It is hardly likely that the captain of a West India trader, laden with sugar and rum, and also much spice, would take a quantity of wood into his ship for ballast. Besides, we are informed that many years previous to the treaty of 1786, the settlers "had taken the liberty of cutting mahogany," without the permission of the King of Spain. There must then have been a good market for that article in England long before 1803 or 1804, and Dr. Gibbons could not have had the honour of introducing mahogany to an admiring world. The time allowed to me will not admit of my giving a particular account of the mode of finding, cutting, and preparing the mahogany. I will merely state that the cutting commences in the month of August. In April and May, in which months the ground has become perfectly hard, from the continued dry weather, the wood is carried upon trucks drawn by bullocks to the water's side; and about the middle of June, when the rivers are swollen by the floods, the logs are floated down to about 10 miles from the mouths of the different rivers, where they are confined by a heavy boom drawn across the stream. Here the owners select their respective logs, form them into rafts, and so float them down to the sea. The mahogany is always trucked in the middle of the night, the cattle not being able to perform such laborious work during the heat of the day. It is a picturesque and striking scene—this midnight trucking. The lowing of the oxen, the creaking of the wheels, the shrill cries of the men, the resounding cracks of their whips, and the red glare of the pine torches in the midst of the dense dark forest, produce an effect approaching to sublimity.

An impression has latterly existed that almost all the mahogany in British Honduras has been cut. This, however, is a mistake. There is sufficient wood in the country, both on granted and ungranted lands, to supply the European as well as the American markets for many years to come. A considerable quantity of mahogany has been, within the last few years, cut in the state of Honduras and on the Mosquito shore; but the mahogany works in the former country have been almost entirely abandoned, partly on account of the wood which is accessible being nearly all cut, and partly on account of the extra freight and insurance which are required when vessels are loaded on that coast. From the Mosquito shore very few cargoes have been lately sent, for the wood which grows there, although it is very large, is of an inferior quality. The mahogany tree requires a rich, dry soil. The best mahogany is found to the north of the river Belize. In consequence of the nature of the soil in that district, in which there is a great quantity of limestone, the mahogany is longer in coming to maturity, but when fully grown, it is of a harder and firmer texture than that which is found in the southern portion of the settlement. There is no wood more durable than mahogany, and none which is so generally useful. It is stated in a little book called "The Mahogany Tree," that furniture is being made in the royal dockyards out of the beautiful mahogany found in breaking up the old line-of-battle ship the *Gibraltar*, which was built in Havana 100 years ago. The English and French governments purchase yearly a large amount of mahogany for their dockyards. During the last year the British government required 12,000 tons, paying £10 17s. 6d. per ton. The French government took 3,000 tons at the same price. The Royal yacht is built principally of Honduras mahogany. Private shipbuilders are, however, reluctant to make use of mahogany for their vessels, as Lloyd's Committee exclude all ships of 12 years' standing in which the floors, futtocks, top-timber, keelson, stem, and sternposts, transoms, knight-heads, hawse timbers, apron, and dead wood, are made of mahogany. Mahogany vessels of ten years' standing they admit, but even those, I am informed, it is their intention very shortly to exclude. The reason which they assign is, that mahogany differs very much in quality, and it is impossible to know when a ship is built of good, or bad wood. But this difference in quality depends entirely upon the district in which it has grown. If they restricted the shipbuilders to the northern wood, they might admit vessels of 12 years' standing without any risk. In the year 1846 the Honduras merchants presented a memorial to Lloyd's Committee, praying for a removal of the existing limitations to the general use of mahogany in the building of vessels of the highest class. Attached to this memorial were numerous certificates from persons well qualified to give an opinion upon the subject, speaking in the highest terms of mahogany for shipbuilding. Captain E. Chappell, R.N., Secretary to the Royal Mail Steam Packet Company, says, "Has seen *Gibraltar*, 80 gun ship, which was broken up at Pembroke. *This ship is entirely of mahogany;* captured of the Spaniards in 1780; *all her timbers sound as when put into her.* Tables for the whole navy made of the timbers of the *Gibraltar*. The steamer *Forth*, built by Mr. Menzies, of Leith, has as much mahogany put into her as could be obtained. The use of mahogany ought to be the *rule*, and not the exception." The qualities of mahogany which render it peculiarly fitted for shipbuilding, are its lightness and buoyancy, its freedom from dry rot, and its non-liability to shrink or warp. The price of mahogany varies according to the size, figure, and quality of the wood. One tree from the northern district, which was cut into three logs, sold for £1,800, or 10s. per superficial foot of one inch. Southern wood, of a small size and inferior quality, has been sold at 3½d. a foot. The present prices in London for small sized plain mahogany are from 5d. to 6d. per foot; for large sized plain from 7d. to 10d., and for large of good quality and figured from 9d. to 1s. 6d.

The yearly average quantity of mahogany exported from Honduras during the last ten years is about eight millions of feet, equal to 20,000 tons, or 200,000 tons in the whole ten years, requiring 160,000 trees.

The Honduras logwood trade has greatly increased of late years, owing to the dye being much superior to the dye of the logwood which is cut in Jamaica and St. Domingo. The price of the former is 40 per cent. higher than that of the latter. The Honduras wood sells for £7 per ton, and the Jamaica and St. Domingo wood for £5 per ton; this is a very different price from that which it sold for in Dampier's days. He tells us that it then sold for a £100 per ton, which, allowing for the difference in money, would be equal to £200 at the present day. The Jamaica and St. Domingo wood is used in the dyeing of carpets and other coarse cloths; but the Honduras wood is used in dyeing all kinds of woollen, cotton, and silk fabrics. A considerable quantity of Honduras logwood is shipped yearly to Oporto, whence it comes to us as prime port wine, recommended by the faculty for its superior nutritious and astringent qualities. A large quantity of logwood is also exported to the United States. Captain Dampier thus describes the logwood trees:—

> "They are much like our white thorns in England, but generally a great deal bigger, the rind of the young growing branches is white and smoooth, with some prickles shooting forth here and there, so that an Englishman not knowing the difference would take them for white thorns, but the body and the old branches are blackish, the rind rougher, with few or no prickles. The leaves are small and shaped like the common white thorn leaf, of a palish green. We always chose to cut the old black rinded trees, for these have less sap, and require but little pains to chip or cut them. The sap is white, and the heart red; the heart is used much for dying, therefore we chip off all the white sap till we come to the heart, and then it is fit to be transported to Europe. After it has been chipped a little while it turns black, and if it lies in the water it dyes it like ink, and sometimes it has been used to write with. Some trees are five or six feet in circumference, and these we can scarce cut into logs small enough for a man's burden, without great labour, and therefore we are forced to blow them up. It is a very ponderous sort of wood and burns very well, making a clear strong fire and very lasting. We always harden the steels of our fire arms, when they are faulty, in a logwood fire if we can get it."

The imports and exports, and the inward and outward shipping of Honduras from the year 1824 to 1836, may be found in Mr. Montgomery Martin's book on "The Colonies of the British Empire," and that portion of his work may be depended upon, for his information was derived from returns furnished him by the Colonial office. I shall begin with the year 1846. The exports in that and the follow year were as follows:—

	1846.	1847.
Mahogany	9,567,570 feet	6,502,777feet
Cedar...	4,139 feet	10,337 feet
Logwood	4,314½ tons	3,222¾ tons
Fustic	19¾ tons	—
Rosewood	1 ton and 37 pieces	206¼ tons
Cochineal	5,565 seroons	5,684 seroons
Indigo	387 seroons	611 seroons
Sarsaparilla	101,031 lbs.	53,689 seroons
Hides	1,488	1,299
Tortoiseshell	150 barrels	45 lbs. and 1 box
Cocoa Nuts	529,430	536,490
Specie	276,496 dollars	—
Preserved Turtle	49 cases	10 turtles
Plants	41 boxes	6 boxes
Gum	1 bag	—
Lignum Vitæ	—	10 tons
Cases of Cigars	—	4
Tobacco	—	23 bales and 2 boxes
Belly Webwood	—	6 pieces
Santa Maria	—	6 pieces
Sappodilla	—	128 pieces

In 1848 the total value of the imports amounted to £166,611 19s. 5d.; of which there came from Great Britain, £110,851 7s. 9d.; from the West Indies, £402 6s.; United States of America, £53,660 15s. 2d.; From foreign states, £1,679 16s. 6d.

The total amount of the exports was £353,782 10s. These consisted of, mahogany, 7,947,983 feet; logwood, 4,332 tons; rosewood, 23 tons; hides, 1,775; tortoise shell, 659 lbs.; fustic, 10 tons; braziletta, 15 tons; cochineal, 6,182 seroons; indigo, 419 seroons; sarsaparilla, 23,250 lbs.; old copper, 7,993 lbs.; cocoa nuts, 319,943 nuts; specie and bullion, £65,840 4s.

In 1849 the total value of the imports was £237,861. The total amount of the exports was £301,888.

The tonnage entered inwards in that year was 18,521 tons; the outward tonnage was 18,626 tons.

In 1850 the total amount of the imports was £196,554. The amount of the exports was £261,015.

The amount of the tonnage entered inwards in 1850 was 28,748 tons, and outwards, 23,935 tons. In the year 1850 there was a decrease in comparison with the former year in cochineal amounting to £50,000; but there was an increase upon mahogany of £16,000, and upon logwood of £6,000. In sarsaparilla there was a surprising increase. In 1848, the amount exported was 23,000 lbs.; in 1849, 160,000 lbs., and in 1850, 432,000 lbs. The value of sarsaparilla in the Honduras market is about 6d. per lb.; but sarsaparilla, indigo, and cochineal are not the produce of British Honduras, but are sent from the Central American States. I shall speak more of those articles by-and-bye.

In 1851 there was a decrease in imports amounting to £87,707, and in 1852 there was a decrease of £99,840. The cause of this diminution is stated in the blue book for the latter year to have been the distressed condition of the Central American States. That may have been partly the reason, for the frequent dissensions which occur in those countries very materially impede the progress of trade and cultivation, but the principal cause was the fact of the Central American States getting their manufactured goods direct from Great Britain and Germany. Several years ago all the dry goods which were required in Guatemala were purchased in Belize, but latterly the principal houses in that State have found it to their advantage to have their goods sent direct from Europe, round Cape Horn to Estapa on the Pacific. They are sometimes sent to Belize, where they are transhipped to Isabal, from which place they are carried to the city of Guatemala, on the backs of mules. The latter route is very expensive and dilatory, and is attended with considerable risk. The charge is a dollar for every 25 lbs. A mule will carry 300 lbs., so that one load costs twelve dollars, which is about £2 8s. This, when added to the freight from England and the freight from Belize, increases very greatly the price of the goods. The progress of the mules is, likewise, very slow, for, although if the weather be favourable and the ground be dry, they may sometimes travel twelve miles in a day, they frequently do not advance more than two or three, and it is not a rare occurrence for them to be stopped altogether by the mud. Sometimes a mule will take it into his head, or into his heels, to tumble down a precipice with his load upon his back. I have stated that the principal merchants procure their goods direct from Europe, but there are many petty dealers, who, not being able to employ buyers in England, and to make regular remittances, still resort to Belize to make their purchases, where they are allowed 12 months' credit. This class of traders generally pay for their goods in old church plate (which has no doubt been stolen), silver bullion, and gold dust. These gentry require to be sharply looked after, for they not unfrequently have recourse to tricks, which, though Shylock might have called "thrift," we are apt to designate by a harsher term. One ingenious contrivance is to stick a lump of clay, or a good-sized stone, into the middle of a piece of silver ore. But the Belize merchants are generally too sharp to be taken in by this device. The late Mr. Patrick Walker used to say, that if a man had graduated at Belize he was fit to transact business in any part of the world. Mr. Walker was that potent enchanter by whose magic wand the Mosquito shore was metamorphosed into the kingdom of Mosquitia, and at whose instance the mighty autocrat of all the Mosquitos, George Augustus Frederick, was crowned, with great pomp and ceremony at Belize, by the bishop's commissary, whilst a band of music played the appropriate air of that popular song commencing with the words, "Hoky, poky, winky, wang." In the year 1853 there was a deficiency in the value of the imports from the West Indies and foreign states, compared to those of the former year, amounting to £4,000, but from Great Britain and the United States there was a slight increase. In the exports there was a deficiency amounting to £46,000, there being a decrease to Great Britain of £63,000, and an increase to the United States of £20,000. The total amount of the exports to Great Britain, the United States, and other countries, was £345,377. The total amount of outward ships, 23,936 tons, and the number of men employed was 990. In 1854 there was a very great increase both in the imports and exports. The amount of the imports I have not been able to get correctly; the amount of the exports was £452,313. The inward ships amounted to 31,124 tons, and the outward ships to 27,803 tons. The number of men employed was 1,259. I have now stated the amount of the trade of Honduras up to the last report. The staple commodities which form the export trade of that settlement are principally mahogany and logwood. Some cocoa-nuts are occasionally exported as broken stowage, but the quantity is too trifling to deserve particular notice.

The population of Honduras has greatly increased of late years. When the war broke out in Yucatan in 1848, between the Indians and Spanish inhabitants, or Mistetzos, as they are called, being a mixture of the Spanish and Indian, there was a great influx of both people into Honduras, where they came as to a city of refuge. There is much difficulty in taking a census of the population of Honduras. In 1848 it was supposed to amount to about 14,000, but since that time I have no doubt the population is more than trebled. Belize contains a ranging population of from 5,000 to 8,000. At Christmas the town is always very full, for at that time the labourers come from the various mahogany works to receive their wages, if any be due to them, and to enter into contracts of service for the ensuing year. It is then that you see a class of men who, from their height, symmetry, and muscular development, would form splendid models for a Hercules, or an Antæus. When these men are actively employed it is curious to observe the play of their muscles, which rise and fall like the swelling of a sea in gentle motion. At Christmas there are pitpan races between the negroes and the Caribs. A pitpan is a long flat-bottomed boat, deep and wide in the middle, but shallow at the ends, which are square. Some of them are fitted with a wooden awning, which can be removed at pleasure. It is made of one log of wood, which is sometimes mahogany, and sometimes cedar. This kind of boat was no doubt used by the Indians previously to the discovery of America, and is, most probably, of very ancient origin. Bryan Edwards, in his "History of the West Indies," says, that Bartholomew Columbus met one of them in passing through the Gulf of Honduras. It was eight feet in breadth, and in length equal to a Spanish galley. Over the middle was an awning, composed of mats and palm tree leaves; underneath which were disposed the women and children. The pitpan race is a curious spectacle; the enormous length of the boat, sometimes sixty feet,—the great number of paddlers, with their bodies naked to the waist, and black and shining as polished ebony,—their broad brawny chests, and muscular backs and arms,—their shrill, dissonant, ferocious cries,—their wild gestures, sometimes plying the paddle with inconceivable vigour, which sends the canoe with the swiftness of an arrow through the water, sometimes hurling it into the air, and dexterously catching it as it falls, and sometimes dashing up the spray, which, for a moment, makes them invisible, present altogether such an exhibition of savage nature as to cause the beholder for an instant to doubt whether the wild creatures he sees belong to the same species as himself. They are, however, very fond of music, which, it is said, "tames the savage beast." If you engage a party of them to paddle you up any of the rivers, they generally insist upon indulging you with a song, neither the air nor the words of which would, I am afraid, be duly appreciated at her Majesty's theatre.

The town of Belize occupies a space of at least two miles in length. Before the recent fire, which consumed so many buildings, there were, at the lowest computation, 1,500 houses. Those which are occupied by the most respectable portion of the inhabitants, are, for the most part, large and elegant structures, having in front spacious verandahs. There are two pretty little churches, a Baptist Chapel, a Presbyterian Chapel, a Wesleyan

Methodist Chapel, and there was, but it has unfortunately been burnt, a Roman Catholic Chapel. It has been said that Honduras is only capable of producing mahogany and logwood. Why the very fact of mahogany growing in such abundance is the strongest proof of the fertility of the soil. The mahogany tree will not flourish except in a dry, rich soil,—and this again proves that Honduras is not wholly a swamp. Wherever mahogany will grow, there every tropical product will flourish; wherever logwood grows, there you can produce the finest rice. I will now proceed to mention a few vegetable products, besides mahogany and logwood, which not only can grow but do grow in Honduras. Captain Henderson, the intelligent writer from whose book I have before quoted, says, "Few countries, perhaps, ever possessed higher advantages, in an agricultural point of view, than the greater part of that which is placed contiguous to the bay of Honduras. It is certainly but imperfectly known to us, but what has been ascertained respecting it discovers in a very striking degree the vast obligation it owes to nature, if it be not in any way beholden to the industry of man. The extraordinary benefits which might result from the happiest combination of climate and soil are almost disregarded; and the cultivation of the earth, which, in almost every other spot of the habitable world, claims our first regard, is here held of no consideration at all. Pursuits, therefore, of the most important utility give place to those which are viewed as being infinitely more profitable. Nor is it probable that such resources will suggest themselves until the opportunities afforded by the latter shall begin to fail. This must happen, and it will be only then that the real value of this country can possibly be discovered."

The cocoa-nut tree, of course, grows in Honduras, and can be cultivated to any extent. This tree will flourish in the most sterile soil. Where nothing else will grow, where not a blade of grass can be seen, this tree, crowned with its broad, plume-like, drooping branches and pendant clusters, bends its tall stem and courts the breeze. It is about eight years in arriving at maturity. At the expiration of that time it is in full bearing. The average value of a cocoa-nut tree is three dollars per annum. If a person, therefore, chooses to plant a thousand cocoa-nut trees, which is the easiest thing in the world to do, at the end of eight years he will possess a secure income of £600 per annum. The great importance of the cocoa-nut tree has been long recognised. From the kernel of the nut a valuable oil is made, which is now much used in the manufacture of candles and soap, and from the husk a species of fibre is made, which has within the last few years been successfully employed in the manufacture of matting. This fibre is also frequently used in the stuffing of mattresses and cushions, for which it is an excellent substitute for horse-hair. It is equally elastic, though not so durable. But its cheapness recommends it as an article of commerce.

There is another species of palm in Honduras, called the mountain cabbage. This tree grows to the height of 100 and 120 feet. The stem is quite smooth and perpendicular, and like the cocoa-nut the branches droop gracefully from the top. There is a singular feature in this tree, which I have not noticed in any other of the palm tribe—the stem, from the bottom to the top, is surrounded with a succession of rings of a darker-coloured bark. Until the tree has arrived at its full growth, its age can be ascertained by the number of rings which it possesses. The topmost portion of the tree is a delicious esculent. It is perfectly white, and is, in appearance, very like the tusk of an elephant. It consists of a number of thin, crisp laminæ. When this is boiled, it resembles, both in appearance and taste, the Jerusalem artichoke. It also makes an excellent pickle. But to obtain the cabbage it is necessary to cut down this beautiful tree,—which is sometimes too great a sacrifice for one dish. But the most valuable tree in British Honduras is, unquestionably, the Cahoun palm. The branches of this tree resemble those of the cocoa-nut, but instead of growing from the top they shoot up and radiate from the bottom. It does not grow so high as the cocoa-nut tree, and the stem is considerably thicker. It bears a nut about the size of an egg, which grows in large bunches, which, from their size, form, and weight, remind one of those ancient Dutch tiles, on which were represented the Hebrew spies bending under the ponderous clusters of the promised land. The oil which is made from this nut is very much superior to the oil of the cocoa-nut. A pint of the former will burn as long as a quart of the latter. The one congeals at a temperature of 72 deg., the other at a temperature of 68 deg. The cahoun tree—which will only grow in the richest soil—abounds in British Honduras, though it is not found in any of the West India islands; and Sir William Hooker informed me that it was not known in Europe until I sent it to this country. Sir W. Hooker planted some of the nuts which I forwarded to him at Kew, two of which have germinated, and are likely to do well. Mr. Faber, the crown surveyor in British Honduras—a very intelligent gentleman, who thoroughly knows the country—thus writes about the cahoun tree:—"By the latest computation the settlement of Honduras contains 37,500 square miles, of which, I do not hesitate to assert, two-fifths are composed of what is commonly called here cahoun ridges (corossales in Spanish). These corossales, or cahoun ridges, are mostly along the tracks of the rivers, and possess the richest virgin soil; some of them are only a quarter of a mile deep, while others extend to from twelve to twenty miles in depth. The cahoun trees grow at an average distance of five yards from one another, thereby forming arches of evergreens, which soften the rays of the tropical sun, and give a majestic air to those forests whose silence is only broken by the titter of bright-plumaged birds, or the solitary cries of some wild animal roaming in these wildernesses. These cahoun trees yield one crop every year; this crop consists of generally three, and sometimes four bunches of nuts, as close together as grapes; the nuts are of the size of a small turkey's egg, and on an average there are 800 nuts in one bunch. The people here extract oil from them in the following manner:—When the nuts are what they term full, they break between two stones the shell, which is very hard, then pound the kernel in a wooden mortar; the sediment is then put into a boiler with water, and boiled down until all the oil, or fat, floats; they skim the oil off, fry it in an iron pot, so as to disengage all the aqueous particles, and then bottle it. By this simple process the average yield is one quart bottle of oil out of one hundred nuts."

The general manager of the British Sperm Candle Company, Fairfield Works, Bow, thus writes respecting the cahoun oil, in the Society's *Journal*:—

> "I have formed a very favourable opinion of the value of the Cahoun nut oil (of which you were so kind as to send me a specimen) as regards its application to the manufacture of candles. I forward to you herewith a pair of candles which contain 50 per cent of the oil, and having burnt another I find that the light is white and steady. I consider the Cahoun-nut oil superior to cocoa-nut oil for making composition candles, for the odour is more pleasant and the compound is less oily. The best cocoa-nut oil is now selling in London at £2 11s. a cwt., and I think there would be no difficulty in selling the Cahoun-nut oil at a higher rate in very large quantities."

I have received the following testimony to the merits of this oil from Mr. Wilson, the scientific director of Price and Co.'s Candle Works:—

January 2, 1857.

My dear Sir,—We have now the pleasure to send you the results of a few experiments made to ascertain the exact commercial value of Cahoun oil, which we find to be that of the highest quality of cocoa nut oil, that which comes from the Malabar coast, and is selling at the present time at £51 10 per ton. We send you specimens of the oil separated into its liquid and solid constituents, *Coccinine* and *Oleine*, and a little of the

oil made into soap, which has all the very peculiar and characteristic properties of soap made from cocoa nut oil. You may now rely upon Cahoun oil being marketable in this country in *any quantity* at the price of the finest and purest cocoa nut oil.

Yours, &c.,

R. Temple, Esq. G. F. WILSON.

The shell, which is very hard, and admits of a fine polish, might be made use of for various ornamental purposes.

The *Palma Christi*, or castor-oil plant, grows wild in Honduras. When it has once got into your grounds it is almost impossible to extirpate it. The cultivation of this valuable product would not then be a matter of any difficulty, and any amount of the oil could be sent into the British market. Mr. Wilson informed me that he would give from £40 to £50 a ton for as much castor oil as could be sent to him, and he stated that by expending one pound upon every ton, he could make it as good as cocoa-nut oil for the manufacture of candles. The Creoles use castor oil for their hair, the growth and lustre of which they imagine it promotes. Elliot Warburton, in his "Crescent and the Cross," ascribes the luxuriance of the long, dark, clustering curls of the Nubians, to the use of it.

The Cayenne pepper which is made in Honduras is very superior to that which is made in Jamaica, being manufactured of the small red bird pepper, without the addition of any other material. The Jamaica pepper is adulterated with a fine red powder, which is found upon the anotta plant.

The ginger of Honduras is considered to be very good, being singularly free from that fibrous quality which characterises the East Indian ginger, at least that which is imported into this country.

I have already said that where logwood will grow, there also excellent rice may be produced. I sent a specimen of this product of Honduras to this country, and it was pronounced to be equal to the best Java rice.

Much has been said and written of late about the desirableness of producing cotton by means of free labour, and Dr. Livingston has drawn the attention of the public to certain portions of Southern Africa where that article could be grown in perfection. Now, I will undertake to say, that there is no country under the sun more favourable to the cultivation of that plant than British Honduras. In the year 1846 Mr. James Banks read to this Society a paper upon Honduras cotton, when he exhibited a number of specimens. In the published Transactions of this Society, it is stated that "Among the samples exhibited to the Society were the following —from Honduras, the clustered or kidney seed, showing its clustered form and staple, sold at 6d., and valued on trial in 1841 at 6¼d.; also its native cotton, resembling Sea Island, which, when saw-ginned, was valued by the same spinner at 6¾d. The seed of it is almost entirely free from down, and therefore capable of passing easily through the roller gin, and bringing a much higher price. A specimen of the Anguilla, grown in British Honduras, is one of the very finest cottons known. Its seed is entirely free from down, easily separated, and, therefere, readily cleaned by the roller; its seed was the smallest among the samples. There are other kinds (indigenous to Honduras,) which are fine, but covered with down, rendering them difficult to clean, except by the saw process; one kind is of a grey colour; another is red, furnishing the cream-coloured cotton."

It is not necessary, I think, to penetrate into Southern Africa to cultivate a plant by means of free labour, in order to diminish the consumption of that which is produced by the slave, when we are able to grow as good an article in one of our own colonies as that which is imported from the United States.

Tobacco, the narcotic odour of which, it has been said, equally infatuates the ignorant savage and the intelligent philosopher,—tobacco, which solaced the mind of the scientific Newton,—soothed the learned Parr, and taught the fictitious Syntax to bear and forbear when he had returned from his tour with empty pockets, and was soundly rated by his indignant spouse,—tobacco grows spontaneously, and abundantly—in every portion of British Honduras. Tobacco was first discovered by the Spaniards in 1560, in Tabasco, in Yucatan, whence it was sent by them into Europe. Formerly a very extensive trade was carried on between Havana and Yucatan, the latter supplying that city with logwood, salt, deerskins, a fibre from which ropes and hammocks were made, and tobacco. When the planters in Cuba were able, by careful and skillful cultivation, to produce a better tobacco than that with which they had been supplied from Yucatan, that article ceased to be a branch of the trade. It is not to be supposed that the Spaniards, when they discovered the plant, also discovered the use of it. It had long been used by the aborigines, who regarded it with superstitious reverence. It was called yoli by those who dwelt in the islands, and pætun by those who inhabited the continent. There is a considerable quantity of tobacco now cultivated to the north of the Belize river. When the Indians fled from Yucatan to Honduras, they in a very short time proceeded to plant the tobacco, for the Indian still considers that herb as a special gift of the Deity to solace him in trouble, to tranquillise him in prosperity, and to fill him with soft and gentle feelings. He thinks, when he kindles the dried and folded leaf, he is sacrificing to his God,—that every puff of smoke is an incense of adoration, and that the stupor which steals over his senses is the heavenly calm enjoyed by blessed spirits. Very good cigars are manufactured at Merida, the capital of Yucatan, and also at Zacapa, in Guatemala, where they are scented with vanilla. I have no doubt, if knowledge and skill were brought to bear upon the cultivation of this plant, as good tobacco might be produced in Honduras as that grown in Cuba.

In Honduras there is a plentiful supply and a great variety of that animal which first lectured on philosophy—I mean the serpent. Of these reptiles, the number which are venomous is much less than is generally supposed. The snake, possessing no defensive weapon, and having no means by which he can speedily escape from his enemies, is more easily captured than any other animal. But a few of them, although not able to fly from or resist attacks, possess the power of injecting into the veins, and mingling with the blood a deadly venom, which in a few hours destroys life. I say, a few of them possess this power; but as we are not certain which amongst the prodigious variety which exists does not possess it, they are protected by a moral safeguard from the hand of man, which is the undefinable feeling of horror which every one experiences at the sight of any of those creatures. The snakes which are known to be venomous in Honduras are, the rattlesnake, the tomagoff, or tamagasa—as it is sometimes called, and the coral. The bite of the two former causes death in a few hours; but that of the latter, it is said, destroys life almost instantly. There is a plant which grows in Yucatan, in Central America, in Chili, in Peru, in Columbia—indeed, in the whole of South America, which is universally known by the name of Guaco, or Huaco. This is believed and declared to be a certain remedy for snake bites. So strong is the impression of the powerful medicinal virtue possessed by guaco, that no Indian ever traverses the dark and dense forests of that part of the American continent without carrying a portion of it in his pouch. The late Dr. Francis Young, of Belize, thus describes it:—"The guaco is a creeping or climbing plant, growing in moist and shady parts of the forests of Central America, and delights in the rich black vegetable mould so abundant in intertropical forests. It is found in great vigour near the margins of springs, in shady situations, as well as along the banks of rivers. When in its growth it meets with a shrub or any other body, it attaches itself to it by winding in a spiral manner round it. The leaves which have reached full maturity are about six inches in length, and of a proportionate width, and at a little distance from the leaf-stalk are sagittated and serrated. The leaves of middle growth, as well as the young ones, are of a dark purple hue, with a tinge of green on the under surface, an appearance by which the guaco is readily distinguished from other plants of the creeping or climbing kind which may in other respects strongly resemble it. The upper surface is of a green, glossy, and silky aspect, and of a velvety feel, from being covered with a short and exceedingly soft down. The taste of the leaf, stalk, and root is an intense bitter, which leaves a strong impression on the tongue, more lasting than that caused by the generality of bitters."

Dr. Dunglisson, Professor of Medicine in the Jefferson Medical College of Philadelphia, in his book styled, "New Remedies Pharmaceutically and Therapeutically Considered," thus speaks of guaco:—"Many species of the genus Eupatorium, and of the kindred genus Mikania, have been prized in various parts of America, particularly in cases of bites of serpents. This is especially the case with Eupatorium agapana. According to Von Martius, a quantity of bruised leaves is applied to the scarified wound, and the application of fresh leaves is renewed over and over again until the patient is freed from the dangerous symptoms, and especially from the violent suffering; at the same time a few spoonsfull of the expressed juice are administered every now and then." After mentioning a number of plants belonging to the Eupatorium, he says:—"The most important species appear to be that called in Peru Guaco, or Huaco, which is held there in high consideration as well as in New Grenada and Venezuela, not only in these cases but in the prevention of hydrophobia; this is presumed to be the Mikania Guaco of Humboldt."

Very eminent botanists, whose opinions are deserving of the greatest respect, think that the virtues attributed to the guaco and other members of the family of Serpentaria, are purely imaginary. I am not at all qualified to argue that point with them—but the testimony of an honourable, well-informed, and intelligent practitioner of medicine—that the Guaco had been by him administered with success to the human subject in cases of snake bites, is not unworthy of regard. Dr. Francis Young, the gentleman to whom I allude, treated four decided cases of this character, by the application of guaco, with perfect success. The first one was that of a mate of a vessel who had been bitten by a venomous snake, which had been brought on board along with a quantity of logwood. Dr. Young says:—

"About eight o'clock at night, the mate, while walking the deck, on which a quantity of logwood still remained, suddenly felt something bite him near the ball of the great toe. The pain was exquisite, quickly extending itself in shoots up the limb, and affected his side. There was a giddiness of the head and an acute pain in the pit of the stomach, and sickness. He was almost immediately thrown into violent convulsions, and the posterior muscles of the body became so powerfully affected with spasms as to send the head and shoulders backward to such a degree as to resemble a severe case of tetanus. When my brother, who was hastily sent for, arrived on board, he immediately concluded it was a case of snake bite, and was in the act of sending ashore for the *guaco*, a quantity of which, by good chance, he had, when I arrived with it, having heard of the mishap. At this moment a very violent fit, of an epileptic appearance, with violent spasms of the head, of the kind mentioned above (although greatly aggravated) took place. These spasms had appeared about every ten minutes. We hastily descended to the cabin, and as soon as the power of swallowing returned administered a wine-glass full of very strong tincture of the guaco. We waited in extreme anxiety to see the result of this our first essay in grappling with a formidable enemy hitherto accounted invincible, with a power, new to us, indeed, but the fame of which was widely spread. It may well be imagined how great was the intensity of our impatience in awaiting the lapse of the usual period intervening betwixt the convulsive attacks. Ten, twenty, thirty, and forty minutes over without any return of the convulsions. The pulse was strong, full, and accelerated —there was much pain in the head, with somewhat of drowsiness, and a profuse flow of perspiration. We left the patient, ordering the same dose to be given in about an hour and a half after the first dose, should no convulsion appear, but immediately on a threatening of such. About a quarter of an hour after we left a slight convulsive attack came on, when the dose was repeated. As we had left orders to be sent for should matters again become unfavourable, we were agreeably surprised to pass the night without being called, the last attack being so slight as not to appear to his father sufficiently serious to cause him to disturb us, more especially as he was satisfied he had a sufficient remedy with him. The young man in a day or two was quite well. I may here observe that the snake was neither seen before nor found on board afterwards, it having in all probability slipped over the side of the vessel after inflicting the wound. No one, however, ever expressed a doubt as to the identity of the bite with the snake which had so cleverly evaded the boat's crew.

"The other three cases occurred to two Indians and a Carib, and were treated in the same manner. In all, after giving guaco, the pulse became exceedingly strong and full, with intense headache and flushed countenance, followed after a time with a profuse flow of perspiration. These symptoms would doubtless have led me to the free use of the lancet, had I not previously reflected well on the treatment I should adopt. A strong tincture was used and given by the wine-glass full. It might be said that the quantity of spirits would of itself account for all the symptoms which manifested themselves after the exhibition of the guaco, but when it is mentioned that the whole of the last-mentioned sufferers were in the almost daily use of drinking large quantities of spirituous liquors, this surmise becomes dissipated. I have not a doubt upon my own mind that the symptoms were produced by the guaco, and as the necessary results of an internal exhibition, in whatever form given, provided the dose be large, and given with a bold hand, and that previous depletion, either by the lancet or otherwise, had not preceded its use. I, moreover, am of opinion that the entire success of the treatment arose from the action of the guaco on the body not having been interfered with, or in any way modified by a random recourse to the lancet, without reflection that its use might altogether destroy the efficacy of the peculiar power admitted to reside in this singular plant. * * * The guaco is frequently used in intermittent fever instead of bark or quinine, and as a good stomachic in dyspeptic or debilitated state of the intestinal canal."

George Byam, the author of "Wild Life in Central America," after telling us that a friend with whom he was talking near the coast one day, informed him of the extraordinary virtues of the guaco in the cases of bites by venomous reptiles, says, "he was not then aware how soon his remedy was to be tested. Seeing one of the Indians attached to his plantation idling about, he told him to go and remove some loose timber that was lying near an outhouse, and put it under shelter. The man came back in a few minutes, looking more like a blue Indian than a red one, and having only time to say, he had been stung, dropped down in a sort of fit. My friend said, it must have been done by a snake, but a bottle of the tincture was quickly brought out, and about a wine-glass full poured down his throat: he was then laid on a bench and covered up with a poncho, and in a few minutes he burst out into a profuse perspiration, and fell asleep. 'All right,' said my friend, 'he is all right now,' and several men having collected, we started off to kill the snake that was supposed to have bit him. On turning over the piece of wood he had been raising, we found not a snake, but the largest and blackest looking scorpion any of us had ever seen before. Having secured it alive, we brought it into the house and put it under a bell glass to observe it; it must have been six inches long and had claws as large as those of a small fresh water cray fish. The man awoke in a couple of hours quite well, but rather weak from the violent perspiration occasioned by the dose."

Guaco is also said to be a remedy for cholera.

Several months ago, I stated in a letter published in the Society's *Journal*, that there was an odoriferous substance in the axillary glands and under the jaw of the alligator, which might be used as a substitute for musk, and thereby become a valuable article of commerce. In going up or down the rivers of Honduras you are always warned of the presence of an alligator, by a strong and sometimes almost overpowering smell of musk.

Two hundred years ago the musk of the alligator of Yucatan and Honduras was extracted from that animal. Captain Dampier says, "The flesh smells very strong of musk, especially four kernels, which are always found about them, two of which grow in the groin, near each thigh, the other two at the breast, one under each fore leg, and about the bigness of a pullet's egg; therefore, when we kill an alligator, we take out these, and having dried them, wear them in our hats for a perfume."

An extract from the "Official and Descriptive Report of the Madras Exhibition of 1855," shows that the musk of the alligator is known and appreciated in the East Indies. It is as follows, "The largest animal found in the backwaters is the alligator. This vicious animal is sometimes very destructive to those who travel in common canoes, and is found in the northern districts (of Travancore) measuring from 20 to 30 feet in length, and from 5 to 8 feet in girth, and 10 feet in circumference. Musk is taken from the glands of the jaw, which is very fine if well prepared and separated from the flesh, otherwise it will give a very bad smell." But the presence of this famous perfume does not alone constitute the value of the alligator. The teeth of that animal are from four to six inches in length, and are very white and hard. There is no doubt that they might be applied to many useful and ornamental purposes. But there is still another article of no slight importance, which may be extracted from that amphibious brute. The tail of an alligator, measuring twelve feet in length, when boiled down, gives from 60 to 80 pounds of excellent oil. These various materials render that animal much more valuable than it was supposed to be in the days of Romeo, when "starved apothecaries, to show that learning and not beef was their aliment, hung up in their 'meagre repertories' alligators stuffed." The alligator of the New World is a timid animal on land, but in the water he will always attack man. It is not able to bite off a leg, as the shark does, not having the incisors which that fish possesses. He has only the canine and molar teeth, and consequently can only tear his prey. Two of remarkable length grow at the end of the under jaw, in the smallest part. There are two holes in the upper jaw to receive them, otherwise he would not be able to shut his mouth. It generally comes on shore at night, and attracts to him pigs, and dogs, and goats by an exact imitation of the respective cries of those animals.

The Queen conch abounds in the shallow waters which cover the numerous coral reefs near the coast of Honduras. The shell of the Queen conch is extensively used for the manufacture of cameos. In a paper read to this Society in April, 1847, by J. E. Gray, Esq., it was stated that in the year 1846, 12,000 of these shells, valued at £725, or 1s. 2½d. each, were sold in France for this purpose. From a Queen conch one good-sized cameo brooch can be made, and several shirt-studs. The Queen conch frequently contains a pearl, which is extremely beautiful. It is sometimes white, and sometimes of a light pink colour. The latter is the most esteemed.

All those materials for fibre which grow in Jamaica and the other islands, such as the plantain, the banana, the penguin, and the aloe, Honduras produces in great abundance. But there are two vegetable products which I believe are confined to British Honduras, Central America, and Mexico. One is called the *Agave sisilana*. Of this ropes, mats, hammocks, and coarse sacking is manufactured; the other, called the Pita broumelia, ixtle by the Mexicans, and silk-grass by the Creoles of British Honduras. This plant grows spontaneously in the greatest abundance. The leaves are soft, dark green, from five to twelve feet long, and from an inch and a-half to four inches wide. Along the edge of the leaf, at a distance of about six inches from each other, are short, sharp, curved thorns. When the plant is cultivated these thorns gradually disappear. The fibre which this leaf contains is unquestionably of a very superior description, and I have no doubt could be used in the manufacture of every species of textile fabric. Mr. Pye, of Ipswich, has informed me that this fibre is equal to the best China-grass—is superior to the New Zealand flax—and is capable of being manufactured into the finest fabrics. Major Barrow, United States engineer, in his book on the Isthmus of Tehuantepec, thus speaks of it:—"Among the spontaneous products is the *Broumelia pita*, or *ixtle* of the Isthmus, which differs in some respects from the *Agave Americana* of Europe, the *palgue de malguey* of Mexico, and the *Agava sisalana* of Campeachy. Of this prolific plant there are numerous varieties, all yielding fibres, which vary in quality, from the coarsest hemp to the finest flax. Nor is the value of the plant diminished by its indifference to soil, climate, and season. The simplicity of its cultivation, and the facility of extracting and preparing its products, render it of universal use. From it is fabricated thread and cordage, mats, bagging, and clothing, and the hammocks in which the natives are born, repose, and die. The fibres of the *pita* are sometimes employed in the manufacture of paper; its juice is used as a caustic for wounds, and its thorns serve the Indians for needles and pins."

The india-rubber tree is a spontaneous product of Honduras. This tree grows to a very large size, and it is dispersed over the whole country. When an incision is made in the bark, a thick milky fluid gushes out, which in the course of a week becomes black and solid. The woodcutters frequently have recourse to it. When an accident occurs to those habiliments which, since the fall of man, it has been customary to wear in civilized countries, the owner, instead of resorting to the ordinary method of needle and thread, makes a gash in an india-rubber tree, and with some of the inspissating juice which immediately rushes out, he plasters up the chasm.

There is a tree in Honduras called the mammee. It is a tall straight tree, spreading at the top, and having long, dark green leaves, the under surface of which is covered with a soft down. It bears a fruit about the size of a cocoa-nut when it is denuded of the husk. The rind of this fruit is rough, and of a pale brick colour. The inside is soapy, of a yellowish pink colour, and tastes like a mixture of tar and molasses. It contains a large oval seed, of a dark brown colour, and highly polished, the kernel of which has a strong flavour of prussic acid. The Indians cut the kernels in small pieces, roast them, and mix them with their chocolate; some eat them alone. It is said to be agreeable, nutritious, and sedative. An infusion of the dried leaves is a powerful narcotic. An infusion of the bark is a narcotic and a tonic. The Indians of Tehuantepec extract an oil from the kernel, which they apply to their hair, and to which they ascribe certain medicinal properties, but what they are I have not heard. The flowers of the trees are used in flavouring a liqueur made in some parts of the West Indies, called *Crême des Creoles.*

That valuable plant ipecachuana, the root of which is so extensively used in medicine as a powerful but harmless emetic, and which is a principal ingredient in the Dover's powder, is also indigenous to Honduras. The flower is seen growing on the roadside and in the pastures, as the daisy and the dandelion in this country.

The silk cotton tree is a native of Honduras. It grows to a prodigious height,—is widely spreading, and is covered, when in blossom, with most beautiful flowers. These flowers are succeeded by green pods, from four to six inches in length, which contain a grey cotton, which is extremely soft and silky. This material I think might be used for covering hats.

There is no country in the world in which better rice could be grown than Honduras. The nature of the greatest part of the land near the sea coast is low and moist, and, consisting of a rich, black, unctuous, vegetable mould, is peculiarily adapted to the production of rice.

I have said that the cochineal, indigo, and sarsaparilla which are shipped at Belize are not the produce of Honduras,—but of the Central American States. Cochineal or *coccus cacti*, from the Greek word Κοκκος, because it was thought at one time to be the grain or seed of the cactus,—called by the Spaniards *Cochinilla*, is confined entirely to Guatemala. The cochineal is a small insect, which feeds only upon the cactus. It was introduced into Guatemala in the year 1811, by Don Jose de Bustamente, from Oaxaca, in Mexico, of which he was Captain General, when he was removed from that province to the former state. It was formerly exported to Cadiz, but since the independence of the Central American States, the whole of it has been sent to England by way of Belize. It is packed up in hides, each bale being called a seroon, and containing 150lbs. The demand for this beautiful dye has very much increased of late years. In 1827, 100 seroons were exported; in 1830, 300; in 1831, 700; in 1846, 9,037; and in 1849, 9,794. The price 20 years ago was 10s. 6d. a lb. It now varies from 3s. 4d. to 4s. 9d. for silvers, and for blacks from 3s. 6d. to 5s. 8s. The black cochineal, which is considered the best, is the insect which is dried after it has ceased to breed. The silver is that which is dried before it has begun to breed. Mr. Dunlop, in his "Travels in Central America," states that there are five varieties of the cactus which have been tried in Central America for the propagation and sustenance of the cochineal. The "penka beaver" (hedge cactus), the penka amarilla, or yellow flowering cactus, the penka blanca, or white flowering cactus, the "mosote," having a bright crimson flower, and the costanea, which has also a red flower. Of these five descriptions of the cactus, the mosote is preferred, for a plantation of this cactus will last 12 years, and yield two crops a year. The insect is preserved during the winter upon the leaves of the cactus, in long narrow buildings erected for the purpose. At the commencement of the dry season, which is in October, the insect is placed upon the leaf; and at the expiration of 90 days, when the mother cochineal has done breeding, and the young insect is sufficiently mature, they are taken off and dried in the sun. The different descriptions of cactus which I have mentioned grow as well in Honduras as in Guatemala, and there is no reason why the cochineal insect should not be also produced there. All that is required is dry weather while the insect is breeding and feeding upon the leaf. A heavy shower of rain would in an instant wash the cochineal from the leaf. From the beginning of March until the end of May, scarcely a drop of rain falls in Honduras. During that period the cochineal might feed upon the cactus in perfect security. It is extremely probable that the climate of Honduras would be more favourable to the cultivation of this insect than even Guatemala, for in the latter State the nights are often very chilly, which is not the case in the former country during the dry season. The insects are often destroyed by the chill, cold, night-air of Guatemala.

Sarsaparilla, the medicinal properties of which are so valuable, is a native of British Honduras. At the present moment the whole of the sarsaparilla which comes from Belize grows in the republic of Honduras, although the seamen, when they bear upon their backs bales of this article to the boat at the sea-side, which is to carry them on board the ship bound for England, which is riding at anchor in the bay, pass by this very plant which is growing wild, and which ignorance or apathy leaves to wither unregarded.

A very considerable quantity of indigo passes yearly through Belize for England. This comes entirely from San Salvador, and is the only article exported from that state. Previously to the independence of the Central American States, a very considerable quantity of indigo was produced in San Salvador, but, since that event, the cultivation of it has gradually declined. In 1820, the quantity produced amounted to 8,323 bales, but in 1846 the quantity did not exceed 1,200. The plant which is cultivated in San Salvador is a triennial, but there is another species indigenous to the country, which is a perennial. The latter plant produces a dye very superior to the former, but it only yields about half the quantity. In British Honduras the forests are full of this indigenous plant, and there is not the slightest doubt, if it were properly cultivated, and science and skill were brought to bear upon the manufacture of the dye, that country would produce an article equal to the best Bengal indigo.

The moringa tree, from the seeds of which the celebrated oil of Ben is said to be made, grows readily. Digitalis, or fox-glove, is found in the high lands.

The fustic, a large tree, from which a yellow dye is procured; the brazilletta, or Brazil wood, which gives a crimson dye; *Pterocarpus Draco*, from which dragons' blood is derived; the *Dolichos pruriens*, or cowhage, which is used as a vermifuge; the contrayerva, which is valuable for its tonic properties; vanilla, so much used as a scent, and for flavouring confectionery; cacao, from which chocolate is made,—all these vegetable products grow in wild profusion in British Honduras. To mankind they are of no use; to man, ungrateful to his Maker for his varied and exhaustless bounties, they are like the rose which is—

> "born to blush unseen,
> And waste its sweetness on the desert air."

In the district to the north of Belize, excellent sugar and rum are produced, and there is no locality in the world where better coffee could be grown than in the Manati hills and the Cockscomb mountains. The mulberry tree flourishes, and the silk-worm could be cultivated with success.

All this vegetable wealth,—all these varied resources, the Honduras merchants are well aware of; but so long as our position in the country is uncertain, so long as we are threatened to be expelled,—so long as our American friends keep firing off against us Clayton and Bulwer treaties and Monro doctrines, they consider that it would be too great a risk to embark much capital in the general trade of that country.

But the Central American question is now, happily, set at rest by the last treaty between this country and the United States, and any one who attempts to disturb the good feelings which dictated its amicable adjustment, will display neither patriotism nor good sense.

I have so far confined my observations to the vegetable resources of Honduras; and of them I have only mentioned those which were the most prominent. It has numerous valuable woods—the iron-wood, the sappodilla, the red pine, button-wood, the dogwood, the cedar, the ziricote (of which there is a specimen upon the table), the mohoe, the red mangrove, the Santa Maria, the sea grape, and a host of others, extremely valuable, which I must abstain from noticing at present. But there are many animal productions which deserve to be ranked amongst the commercial commodities of this country. Turtle, tortoiseshell (which is the shell of the hawksbill), the roe of the calipever, equal in all respects to the roe of the sturgeon, and the sterlet which comes from Russia, the liver of the hiccattee, the oil from the tail of the manati, the eggs of the iguana, the scales of the tarpaum and the calipever, the jew-fish from the thick, gelatinous skin, bones, and fins of which, isinglass might be made, and many others, which I have not time to notice.

There is no question that Honduras is destined before many years have elapsed to hold an exalted rank amongst our colonies. That grand conception, the Honduras interoceanic railway, which, when finished, and I have no doubt it will be finished, will confer immortality upon its projectors, will give new life to British Honduras,—it will launch into it fresh energy, skill, intelligence, and capital: and it will bring into high relief the great mercantile capabilities which it possesses, and place it in that position, commercial and political, which by right it ought to occupy. Telegraphic communication will be established between London and Havana within the next year. It is the intention of the Honduras Railway Company to lay a wire from Havana to Cape Antonio, from Cape Antonio to Belize, and from Belize to Puerto Caballos, the Atlantic terminus of the line.

I have now placed before you a sketch or outline of the history, trade, and commercial capabilities of Honduras; and although my task has been imperfectly performed, you will, I am sure, feel satisfied that Honduras is deserving of more attention than has hitherto been bestowed upon it, and now I would beg permission to say—if the spirit of adventure animates you—that spirit which moved a Columbus, a Magellan, a Vasco de Gama, and a Cabot—do not now waste your energies and throw away your time amidst the icebergs and eternal snows of polar climes, in the solution of problems which have been already solved—do not wreck your fortunes and risk your lives in explorations, the only fruits of which will be the stranded boats, and whitened bones, of the gallant men who preceded you in that perilous path, but direct your exertions to the development of a country, which teems with every species of animal and vegetable wealth, by which you will not only benefit yourselves, but contribute to the wants of your fellow man—by which you will not only be the architects of your own fortunes, but the benefactors of mankind.

DISCUSSION.

Mr. TANNER OWEN CLARKE said that, having spent several years in the West Indies, and being still connected with some of those colonies, he could speak with some confidence, and bear concurrent testimony, were it necessary, in confirmation of the views which had been so ably advanced by the hon. and learned author of the paper. There existed, however, a great and paramount evil, and until that was remedied, or in a great measure mitigated, he saw very little hope for the resuscitation of our West Indian Colonies, or of the realisation of those commercial effects which the learned author so much desired. That evil was the want of labour. In many of our colonies the relative position of master and labourer was reversed—the servant, in fact, occupied the position of the master, and it was only with the greatest difficulty that any labourers could be obtained. Were there an adequate supply of labour—free labour,—there was no reason why the numerous products of those countries might not be cultivated with advantage. He thought a well-advised system of continuous, self-supporting emigration, under proper guidance and supervision, was the desideratum for the resuscitation of those colonies. Of all the natural products of the West Indies, none perhaps were more valuable than the oleaginous fruits and seeds indigenous to the soil, and almost unlimited in quantity. These, even under existing circumstances, might be cultivated to a profit. Acting upon that impression, he had sent out instructions to his agent in Jamaica to commence an experiment on a small scale with the cultivation of the "moringa," which had been spoken of by the author of the paper. He had brought with him a sample of the seeds and the oil produced from them, and he read the following report upon the seeds of the *Moringha pterygosperma*, by Mr. Dugald Campbell, Analytical Chemist to the Brompton Hospital. London:—

"The seeds, as they are received by me, weigh on an average 4¼ grains each, and when they are divested of their husk and shell, leave a small pith-like substance, about the size of a pea, weighing as near as may be 3.07 grains, which is a yield of 72.27 per cent.

"This pith-like substance is composed of oily matter, saccharine matter, with other vegetable substances, besides mineral salts and water, and in the following proportions in 100 parts:—

Oily matter...	36.83
Saccharine matter	8.28
Other vegetable substances	44.17
Mineral salts	3 92
Water...	6.80
	100.00

"Although I have obtained by exact chemical processes 36.83 per cent. of oil, the modes of analysis which I was necessitated to adopt in order to estimate all the oil in the seed are too expensive in their operations for commercial purposes, and could not, on that account alone, were there no other reason against their use, be applied to extract the oil from the seed.

"To test, however, what would be the practical yield of oil, a quantity of the seeds were deprived of their shell, and in this state 5lb. weight were enclosed in a horse-hair bag—the usual custom in such an operation—and submitted to hydraulic pressure for nearly three days in a room kept at about the temperature of 80° Fah.

"The product thus obtained, after filtering once through ordinary bibulous paper, was a rich, fatty, bright, clear, rather deep straw-coloured oil, weighing 1lb. and ¾ths. of an ounce, or 20.93 per cent. of oil to seed deprived of its outer shell.

"This oil is the opposite to a dry oil, being extremely rich in fatty substances, and is of specific gravity 915.60 at 60° Fah. water taken as 1,000°. When it is kept cooled for a short time at 44° it soon becomes opaque from crystals of the fatty substances forming throughout it, and it is now very viscid and thick. In this state it may be heated up to 65° before it assumes its original brightness, although it may when above that temperature be gradually cooled down to below 50° without any change being perceived; it is nearly tasteless and almost without odour; any odour, however, which it may have is suggestive of the dahlia.

"The practical operation gave results as follows:—

Clear oil as described above	20.93
Cake	76.26
Loss in the operation	2.81
	100.00

"My opinion of the oil is, that it is highly rich and valuable, and applicable, by reason of its qualities above described, for very many purposes, but I have not gone into a perfect chemical analysis of it, although I would be happy to do so were you to wish it.

"The cake, the residue in the press after the operation, is a valuable substance and may be applicable in more ways than one; its full examination and applications, however, are reserved for your consideration, but its examination, so far as I have gone, has led me to the following results in 100 parts:—

Oil remaining in cake	17.90
Saccharine matter	11.24
Other vegetable substances	57.18
Mineral salts	4.96
Water...	8.72
	100.00

"As many substances yielding fat oils contain essential oils likewise, I may suggest as an instance of this the bitter almond. I deemed it necessary to make an examination of the cake in this direction, but although the experiments were carried on to their fullest extent, I was unsuccessful, and got no essential oil from it.

"The great value of oil cakes is in their properties of feeding, the present value of best linseed cake here is, for American, £12 10s. per ton, English £12, and French £11. Rape cake has been found to be inferior in feeding qualities, and its price is about £7 per ton.

"I am not aware that physiologists can decide, from chemical data, wherein the difference between these two substances in power of feeding exists, their chemical composition is not so dissimilar as to suggest speculation in this direction. The element which physiologists and chemists agree in considering one of the most vital importance in the system is nitrogen, but this exists in linseed and rape cakes as near as may be in the same proportion, and hence, although a good deal may depend upon this element in the feeding process, still it would appear that the difference in the feeding power between these two substances does not depend upon this alone. If this were the case and that the nitrogen was the great element, the cake which I have obtained from the seeds would stand pre-eminent, for linseed and rape cake contain on an average from 5 to 5½ per cent. of nitrogen whilst it yields 7¼ per cent.

"The first impression to the palate on tasting the cake is one suggestive of a sweet principle, but which, however, is cursory and yields to the flavour of a bitter principle, and although I have ascertained that the sweet taste is from sugar, and I have likewise estimated the amount, as may be seen on referring back to the partial analysis of the cake, I have not, however, determined or even eliminated the bitter. Many of these bitter principles are very nutritious and likewise many are the reverse, nay even poisonous. Should no deleterious matters exist in the cake, from the chemical examination I have made, I am able to say it possesses elements which place it, according to all views in physiology, superior in feeding power to the finest linseed cake. Should, however, this cake be found deleterious as a feeder its value as a manure is considerable, and from the amount of nitrogen it contains, comparing it with Peruvian Guano, and allowing 10s. per ton to the cake for the more favourable condition of the nitrogen in it over the guano, it would meet a ready sale now in the London market at £6 per ton.

"From your information I am aware that the seeds which I have been operating upon are growing without cultivation, and there cannot be a doubt but that the yield of the oil would be, to a very great extent, increased by the culture of the plant, and so likewise would the saccharine principle, whilst the cake would be slightly deteriorated in value as a manure, for it is a rule, as far as I have observed, in most plants, that cultivation, whilst developing the non-nitrogenous substances, if it does not depress the nitrogenous, at least in no way assists in increasing them.

"Should you deem it necessary for me to proceed further with the investigation of the seeds upon any of the properties to which I have called attention, I will be happy to do so."

Mr. Clarke went on to remark that there was no fear of overstocking the market with oil, even if the quantity brought in were double or ten times the present amount. Mr. Clarke also produced a sample of the antidote cocoon nut (*Fevillea seccuderes*), the kernel of which, he said, when prepared like coffee, so far as flavour was concerned, was an excellent substitute for that article. It was, however, supposed to be provocative of dropsy. It was, nevertheless, used by the negroes in sickness, and also in lieu of candles, as well as an antidote in many cases of poison.

Mr. Sheriff Mechi spoke in reference to the cake of the castor-oil plant. He had been furnished with some of it, with which he dressed some growing crops of wheat. He had no doubt the cake of the castor-oil plant produced very excellent results as a manure, and increased the crop very considerably.

Mr. P. L. Simmonds said that he could fully corroborate the observation that there was an almost unlimited demand for vegetable oils for manufacturing purposes. It was but on Monday, in a leader in the *Mark Lane Express*, that he had called attention to the growing wants of commerce for oil, for while our imports of animal fats were almost stationary, the supply of vegetable oils had more than doubled in the last 10 years—a strong stimulus having been given to importation by the abolition of the duty on oil, and on the manufacture of soap, while the large production and consumption of composite candles led to an extra demand. Indeed, oils of all kinds were in great request; whether they consisted of the new Cahoun oil (introduced into notice by Mr. Chief Justice Temple), the castor oil, oil of Ben—used chiefly, he believed, by watchmaksrs—palm oil, or any other of the numerous oils with which the tropics abounded. Much as he desired to stimulate the production of oil-cakes, whether for feeding purposes or for manures, he feared the refuse, after expressing the oil from the moringa, would be very limited; and it would be long before any appreciable supply could be obtained. He trusted it would be the means of bringing the locality more prominently into notice among our merchants and capitalists, and obtaining for it the Government recognition and establishment as a colony. This, with the question of labour alluded to by Mr. Clarke, as the essentials requisite for its advancement Among the vast range of products incidentally or specifically mentioned by Mr. Temple, fibrous materials were among the most important. At a lecture, on Monday evening, he (Mr. Simmonds) had gone somewhat elaborately into our increasing demands for cotton and other fibrous substances, and our dependence upon the United States for our supply of cotton, while it could be produced in abundance in our various dependencies. The subject was prominently taken up yesterday in a leader in the *Times*. The beautiful specimens of cotton and fibre produced that evening showed what could be done in the neglected district of Honduras. Formerly, our West Indian and American possessions, British Guiana, Jamaica, Barbadoes, Bahama, &c., supplied us with considerable quantities of cotton, while they now scarcely produced any. But there were numerous wild plants of the Broumelia and Agave and other tribes, as well as the palms, from which fibrous material for many useful purposes could be obtained. He had seen that day some indigenous specimens of the penguin or bromelia, and other fibres from Honduras, which had been operated upon by a new patented process, by Messrs. Pye, Brothers, of Ipswich, and he was astonished at the remarkable improvement in the quality and the high commercial value given to this article. The main difficulty that had stood in the way of the utilising many of those fibres, was cheap machinery for preparing them, and the getting rid of the various and gummy matters by which they were surrounded, without injury to the fibre. This was now effected, and he foresaw great benefits to the colonies and to our own manufacturers at home therefrom.

Mr. Pye said, that his name having been mentioned by the Honourable Chief Justice in his paper in connection with the commercial value of one of the fibres exhibited in the state in which it was used by the inhabitants of British Honduras, and having been also alluded to by Mr. Simmonds with reference to other fibres, the produce of our possessions, he deemed it due to the Society, to state how he had been able to give such a decided opinion upon the merits of the fibre in question—the "Pita broumelia" or silk grass. The Chief Justice had sent to him a specimen of this fibre to test its commercial and spinning qualities, and he (Mr. Pye) then produced it in a state fit for manufacturing purposes generally. On the authority of practical men, he could confidently assert that this fibre, from its strength and quality, might be rendered fit, by the heckling process, for the finest fabrics. Incidentally he would remark that the specimen given to him contained, by accidental contact with some strong gum—much of that substance—a matter perfectly foreign to the plant itself—thereby increasing the difficulty of its purification from its own natural gums. This combination of gummy matters was a severe test of the efficacy of his (Mr. Pye's) process, and the specimen he then produced showed how perfectly his system had acted in producing a pure and and valuable fibre. Mr. Simmonds having alluded generally to the fibrous productions of India, both east and west, he trusted that he might be permitted to mention that the numerous plants and grasses, classed commercially as hemps, were readily and effectually treated by his process (which was simple and speedy in its operation, and of little cost). He had from them produced pure and valuable fibres, possessing great strength, and capable of conversion into the best ships' cordage and canvas, and many of them into the finest fabrics.

Mr. J. B. Sharp said that he could confirm all that had been said by Mr. Pye and Mr. Simmonds; and with regard to the silk grass, to which especial reference had been made, and which, although not exclusively the growth of Honduras—since it was produced in British Guiana—was not of general growth in the West India colonies, he had that morning submitted some of the fibre to close microscopical examination, and had ascertained, as might have been expected, that each fibre consisted of from six to twelve, or more, fine filaments, held together by a gummy matter, capable of being dissolved, which would bring the material to the same perfect state as two of the specimens he had laid upon the table. These had been passed over the combs or heckles of a flax mill, and had been pronounced, by the most experienced flax-spinners of the North, to be greatly superior to Russian flax, and approaching the best description of Belgian, in capability of application to the finest textile fabrics. These two specimens were of altogether different plants from the silk grass, and partook, with it, of the valuable qualities of great fineness and strength. A material point to be considered was the machinery to be employed in obtaining these fabrics; and the scarcity and cost of labour in Honduras rendered such means of superseding manual labour essential. On that head he would observe, that the plantain, one of the most luxuriant plants in growth, could be easily prepared by one machine; whilst the silk grass, which was of the genus *Broumelia*, together with the penguin, or wildfire, the aloe, and numerous others, required a machine essentially different in construction. The leaf of the silk grass consisted of two different structures, the upper side being of a soft or pulpy character, easy of removal; and the under side of a harder or more ligneous character, and more difficult to separate, these two external bodies holding the fibre between them. The preparation of the fibre was, however, a mere question of mechanical arrangement; and in a few weeks he would be able to show the hon. and learned Chief Justice machines adapted to all those purposes. Mr. Sharp then stated that he quite concurred in the opinion that the interests of the colonies had not met with that support from the home authorities to which they were entitled; and he had no hesitation in stating, that two of our West India possessions, the Island of Jamaica and the colony of British Guiana, to which he would add Honduras, were capable of furnishing these fibres, in their various kinds, to the amount of three millions sterling per annum. He had been severely attacked for advocating the cause of the colonies in preference to Russia and other foreign countries, with respect to supplies of fibrous matter. But he would plainly avow, that he was sufficiently an Englishman, and sufficiently patriotic, to prefer the interest, the welfare, and the prosperity of our colonial possessions, and of our fellow-subjects engaged there, to those of any foreign country whatsoever.

Mr. Routledge said, with reference to the machines which were exhibited before the Society on the 28th November, for expressing the fibres of plants, he had received a letter from Mr. Burke, of Montserrat, stating that both the large and the small machine had been used there with the most satisfactory results. Samples of the fibres so manufactured would, on a future occasion, be submitted for the inspection of the Society. Machines had been brought out to test the matter upon a proper basis, and within a month from that time 20 or more machines would go out to India. Thus the fibre question would very soon be settled.

Mr. Trelawny Saunders said, there were two points only to which he would allude. The first was the geographical question, and the second was the administrative question. With regard to the former, he thought the delineator of the map exhibited had been sufficiently modest in fixing the boundaries of this province from the Hondo to the Sarstoon. The actual frontier must remain in uncertainty until the enterprise of some parties should carry exploration and survey into the interior, so as to determine a question of considerable importance where every inch of territory was of the productive character they had heard described. With reference to the administrative question, he would remark that it could never be expected that much would be done in the shape of agricultural operations in these colonies until the question of title to the land was placed upon a more satisfactory basis. The government proceeded upon no fixed principle in matters of that important character. It often happened that in the first instance private interests grew up until they became of sufficient importance to force themselves upon the attention of government, who met the demands of those interests as expediency suggested. That was the conclusion to which he came from witnessing the operations of government in some of our growing colonies. He thought in this respect they might take a lesson from their brethren in the United States, and follow their example with regard to the occupation of new territories. Their plan was to establish a government office for the allotment of the land at a set price. Where sufficient attractions were offered settlers would speedily follow. With reference to the complaint they had heard of the indolence and indisposition of the negroes in Jamaica to work, he did not blame them for it. They would not work unless they were duly paid, and there was not sufficient inducement in the wages which the colonists could pay. It was not so much a place for capital as for free and independent labour; and that could only be procured by granting a secure title to the land.

Mr. G. F. Wilson, F.R.S., said that he hoped this very valuable paper would lead to the products of Honduras being more fully explored and brought into commerce. If any gentleman was incited by it to undertake the manufacture of cahoun oil, he need be under no fear of glutting the English market, nor that the supply of all that class of butters and oils was not keeping pace with the constantly increasing demand, and there would be no fear of any quantity of cahoun oil not meeting with a ready sale at the price of the finest cocoa-nut oil. The moringa seed, better known as the oil of Ben, which had been spoken of, had long been used in small quantities in this country, and was a valuable bland oil, with a low congealing point. When the commercial exploration takes place it would be well to collect, in addition to the palm and the other known butter and oil seeds, all other seeds which on being burnt would show any considerable light-giving properties. In all tropical countries where he had had the means of collecting information, there were found many varieties of tallow, butter, and oil-yielding seeds, some of which, when untried, would appear only woody and hard, but which yielded hard tallows, and from their high melting points were capable of being substituted for even the hardest descriptions of animal tallow. Caster-oil could now be used in very large quantities for manufacturing purposes, and at the present high rate of oils it would sell readily at above £40 a ton.

Colonel O'Connor said, had he not been requested to do so, he should not have taken the liberty of obtruding any observations of his own in confirmation of what the learned Chief Justice had stated. But the experience of three and a-half years' residence in Honduras, and the having travelled through a considerable portion of Central America, added to some experience in Africa, enabled him to state that the subjects brought forward by the learned Chief Justice were of the greatest importance. The Chief Justice had thrown light upon a colony which had been long kept in the shade; and it was only matter of astonishment that the subject had not been sooner brought forward. He considered they were greatly indebted to the Chief Justice; and looking at the important service he had rendered to the colony itself, he (Colonel O'Connor), as Governor of one of her Majesty's colonies, hoped he would receive that reward which he so richly deserved.

The Chairman said his duties that evening were light, being rather to elicit discussion from others than to take part in it himself. He had, however, one pleasing portion of his duty still to perform, that of inviting the meeting to give their warmest thanks to Mr. Chief

Justice Temple, for the very valuable and interesting paper with which he had favoured them that evening. All must be greatly indebted to that gentleman who, while in this country for relaxation from his arduous duties as Chief Justice, had devoted his leisure to the making known the value and importance of the settlement about which he (the chairman) was sorry to say in this country they knew very little. In bringing forward this information, and showing the almost untouched field for capital and labour which existed there, Mr. Temple was not only benefiting British Honduras, but British commerce. He would not detain the meeting any further than formally to propose the vote of thanks for the paper read to them that evening.

A vote of thanks was then passed to Mr. Chief Justice Temple.

The Paper was illustrated by a great variety of specimens of the products of Honduras, among which were several varieties of cotton, cahoun palm nuts, cahoun oil, and candles manufactured from it, the ground nut, castor-oil seeds, the moringa pods and seeds, the zericote wood, snake root, &c.

The Secretary announced that on Wednesday next, the 21st inst., a Paper by Mr. E. G. Squier, "On the proposed Honduras Interoceanic Railway," would be read.

Home Correspondence.

DRYING OILS.

Sir,—Mr. Binks's method of treating linseed oil, as described in your paper of the 5th inst., will, if founded upon a correct basis, commend itself to every unprejudiced mind, inasmuch as it excludes the necessity for using sulphuric acid, thus supplying a remedy for a great evil, not only in reference to painting in general, but also as regards the artistic world.

By means of the injection of sulphuric acid, followed by steam, almost all such oils, good, bad, and indifferent, have been mixed together by almost every crusher and large consumer, thereby injuring their protective property and deceiving the public at large.

In London, where the external stucco is so universally painted, the difficulty has hitherto been to account for the blackness which so frequently comes upon the painted surfaces, but now that the use of inferior oils saturated with sulphuric acid has been brought to light, the mystery is solved. Of course, if the oxide of manganese be not completely separated from the oil, the painted surface may still acquire colour, viz., that of a brick red, which would be almost as objectionable. Perhaps Mr. Binks can prevent this, but as white lead is the pigment which forms the basis of most colours, it is equally important that its manufacture should also be attended to, as there is only one variety of carbonate of lead suitable for paint, *i.e.*, carbonate of lead devoid of constituent water. This variety is soluble in linseed oil, and in a manner is in a state of chemical union with it. The varieties of carbonate of lead formed from precipitation always contains water (constituent), or of crystallisation incapable of entering into union with the oil. Hence its want of durability; and moreover, from its transparency it does not cover; the consequence is, that when an attempt is made to wash surfaces painted with such material, or even zinc prepared in a similar way, all will come away with the dirt; the oil also, if reduced by an extra dose of the sulphuric acid to as granular a state as the lead or zinc; but should the oil be perfect, then it alone is left to protect the work, but deprived of its uniform appearance.

Then, although it is notorious that all paint will blister if applied to new plaster or unseasoned wood, yet is it not probable that it may arise from the agency of water contained in the oil or pigment mixed with it? This appears to be more particularly the case when the work is made to dry rapidly by the addition of mineral driers—the surface of the paint gets dry and water-proof, preventing the escape of watery vapour. My only anxiety is to obtain an article to stand the test of time.

A MEMBER.

BROWN LIME.

Sir,—I am glad to see my views confirmed in regard to the finding of a boulder lime stone in the Principality fit for hydraulic works; but, in order to clear up all doubt, I should be much gratified if Mr. Girdwood would have the goodness to state, whether any manufacturing process be required in making up the Welsh hydraulic mortar, because, if so, the result will be nothing.

Should edge or face stones be required to grind the burnt limestone to powder, a large capital would be rendered necessary—the rock upon which we always split in England.

I allude to this point more particularly, because the hydraulic limestone of Italy is slacked and brought into fine dry powder by merely sprinkling the burnt limestone with the smallest possible quantity of water, while the mortar made from such lime requires to be inundated with water as fast as each course is laid.

I have also received a communication from Sir William Curtis, Bart., of Caynham-court, near Ludlow, informing me that the Poughnill limestone quarries on his estate will afford any quantity of hydraulic lime such as I have described.

In regard to the rottenstone mentioned by Mr. Girdwood, as being abundant in various parts of the Principality, I should wish he had found, instead, the real tripoli, that formerly came to us from the coast of Barbary, which is a much superior article, as it is of a very light buff colour, nearly white, and the grit is both finer and sharper.

Tripoli cannot be purchased at present in the ordinary way; the very dirty-looking rottenstone is always offered as a substitute; which may be, moreover, largely adulterated, while the true tripoli cannot, as it is imported in solid native lumps, and yet so soft that it requires no grinding.

HENRY W. REVELEY.

Parkstone, Dorset.

SNAKE BITES.

Sir,—Observing that some considerable attention has recently been directed by your Society to the subject of snake bites and their remedies, I would introduce to your notice that singular vegetable phenomenon the "snake nut" of Demerara, which is the product of a large tree, not by any means common in that country, where alone it is to be found.

The pericarp is hard, bivalvular, nearly round, and about an inch in diameter, and contains a soft, rather oily kernel, in the exact similitude of a coiled snake, tapering gradually to the tail, and possessing, when fresh, all the more prominent characteristics of the living reptile it represents, with distinctly formed eyes and mouth. There is also a soft pithy substance surrounding the kernel which is easily detached.

The native legend connected with this rather anomalous offspring of nature, is to the effect, that the kernels of these nuts are but the counterpart of a small and venomous species of snake, which frequents the roots of the tree producing them, but that the same kernels broken and applied to any wound caused by the bite of these reptiles, act as an antidote to the poison.

The description of the nut I have given from ocular observation of two or three which I possess, in a private collection of some 2,000 specimens of natural products, and the legend connected with it I had by word of mouth from a kind friend long resident in British Guiana, who furnished me with the nuts above mentioned.

The animal form assumed in this instance by a vegetable fruit is certainly deserving of the attention of naturalists and botanists, and appears to point to some such origin as that attributed by Dr. Hooker to the vegetable caterpillar of New Zealand, viz., the germination of a seed in the body of an animal which it must have destroyed, and whose form it consequently assumed.

These few imperfect remarks, if of no other service, may elicit further and more correct information from some of the readers of your Journal on so interesting a subject as the snake nut of Demerara.—I am, &c.,

T. D. ROCK.

8, Napier-terrace, Wellington-street, Islington.

POSTAL DISTRICTS.

Sir,—I would take the liberty of suggesting, as a means of more readily carrying out the recent postal arrangements, that the initials of each district should be painted on the wall under the name of the street. The majority of persons will not take the trouble of informing themselves of the district in which each street is situated if that information can only be derived from circulars or maps,—but they must acquaint themselves with the names of the streets in order to carry on their everyday transactions. If, then, the initials of the districts be placed under the name of the street, people will learn the street and the district at the same time. I should recommend the ordinary stencil plate letters cut out, with which and with the necessary pot of white or black paint and a brush, the gaslighters, when they go with ladders in a morning to clean their lamps, could, whether they were able to write or not, mark every street, at a very small cost.—I am, &c., R. TEMPLE.

Jan. 12, 1857.

FEMALE EDUCATION.

Sir,—The Mayor of York, in his address to the Mechanics' Institution of that city, in speaking of the education of girls. said, that not only the lower classes should be instructed in domestic duties, but also those of the middle ranks of life. Indeed, when it is considered that many men in all professions have but very limited means at the commencement of their career, it behoves their wives to accommodate themselves so as to make the scanty earnings of their partners go as far as possible in procuring comforts, consequently, then, their wives should themselves be sufficiently instructed to direct inferior servants in domestic employments. But acquaintance with such matters need not interfere with the attainment of accomplishments and the higher branches of education; indeed, the contrary has generally been found to be the case. A proof of this may be seen in the *Mechanics' Magazine*, No. 1513, August 7, 1852, which enters into many useful details.—I am, &c.,

M. S. BENTHAM.

26, Wilton-place.

Proceedings of Institutions.

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Beaumont Institution.—On Monday evening, Mr. P. L. Simmonds delivered an excellent and instructive lecture "On the Progress of Science in the Nineteenth Century," in which he gave an interesting résumé of the most important modern inventions and discoveries, and the benefits they had conferred on arts, manufactures, and commerce, and in promoting civilization. The lecture was illustrated by a variety of specimens of improved mechanism, and examples of the cheapening and improvement of articles of common use. The lecture gave much satisfaction to a numerous and intelligent audience.

To Correspondents.

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Erratum.—In last number of the *Journal*, p. 111, col. 1, line 34, for "mechanical," read "unmechanical."

MEETINGS FOR THE ENSUING WEEK.

Mon. London Institution, 7. Dr. Tyndall, "On the Nature and Phenomena of Light."
Chemical, 8. Mr. J. B. Lawes and Dr. J. H. Gilbert, "On the Composition of Wheat Grain, and its Products at the Mill, with Observations on Bread."
Tues. Royal Institution, 3. Prof. Huxley "On the General Nature of Motion and Sensation in Living Bodies."
Civil Engineers, 8. Renewed Discussion on Mr. Window's paper "On Submarine Electric Telegraphs."
Linnæan, 8.
Pathological, 8.
Statistical, 8. Mr. W. G. Lumley, "An Account of a Banking Establishment at Belgium, entitled L'Union du Crédit de Bruxelles."
Wed. Royal Soc. Lit., 4½.
Society of Arts, 8. Mr. E. G. Squier, "On the proposed Honduras Interoceanic Railway."
Geological, 8. Mr. Prestwich, "On a Fossilliferous Ironsand on the chalk escarpment of the North Downs," and other communications.
Thurs. Royal Institution, 3. Prof. Tyndall "On Sound."
Royal Society Club, 6.
Numismatic, 7.
Antiquaries, 8.
Royal, 8½.
Fri. Royal Institution, 8½. Prof. Tyndall, "Observations on Glaciers."
Sat. London Institution, 3. Mr. T. A. Malone, "On Experimental Physics, chiefly in Relation to Chemistry."
Royal Institution, 3. Prof. Phillips "On the Nature and Origin of the Rocky Crust of the Globe."
Royal Botanic, 3¾.
Medical, 8.

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, January 9th*, 1856.]

Dated 20th November, 1856.

2751. Richard Archibald Brooman, 166, Fleet-street—A method of, and certain varnishes or compositions for rendering wood and other substances uninflammable and fire-proof, applicable also to the indurating of calcareous earths and stone, and to the rendering of paper and fabrics damp-proof, together with apparatuses for manufacturing such compositions. (A communication.)

Dated 3rd December, 1856.

2866. Thomas Crabtree, Halifax, Yorkshire—Improvements in card-setting machines, and in certain machinery or apparatus employed in the construction thereof, which apparatus is also applicable to similar purposes.

Dated 17th December, 1856.

2985. John Smith, Heywood, Lancaster—Improvements in machinery for pumping.

Dated 18th December, 1856.

2995. Francis Barber Howell, 36, High Holborn—Improvements in machinery for cutting or making corks. (A communication.)
2997. William Hartley, Bradford, Yorkshire—Improvements in spinning frames for spinning wool, hair, alpaca, cotton, silk, flax, or any other fibrous substances, on spools, paper tubes, or any kind of bobbins.
2999. George Miller Clarke, Goldington, Herts—Improvements in the manufacture of moulded candles.
3001. William Knox Wigram, Lincoln's-inn—An apparatus for igniting lucifer matches, or matches tipped with phosphorous or igniting composition.
3003. Joho Brown, Liverpool—Improvements in the construction of ships' yards.
3005. Warren A. Simonds, Boston, Massachusetts, U.S.—An improved life-preserving float.

Dated 19th December, 1856.

3007. William Rye and James Simpson, Oldham, Lancashire—An improved self-acting willow for opening cotton and other fibrous materials.
3009. Charles Massi, 13, Greville-street, Hatton-garden—Improvements in apparatus for mounting cameras.

Dated 20th December, 1856.

3013. Henry Batchelor, Newport, Monmouthshire—Certain improvements in steam boilers.
3015. Thomas White, Sleaford, Lincolnshire—A new or improved manufacture of boots, shoes, and other coverings for the feet.
3019. Charles Cave Wilkinson, 14, Hermes-street, Pentonville—An improvement in carving forks.

Dated 22nd December, 1856.

3021. Robert Gibson, Hull, Yorkshire—An improved self-acting apparatus for signalling on railways.
3023. William James Payne, 119, Waterloo-road, Lambeth—Certain improvements in casting and finishing cocks for general purposes.

3025. Louis Antoine Lang, Rue de Chaillot, No. 64, Paris—A new system of rotary motion for all kinds of vehicles.
3026. Ebenezer Thornton, Huddersfield—Improvements in furnaces.
3028. Thomas Lyon Thurlow, Baynard's-park, Surrey—Improvements in reaping machines.
3029. William Henry Stratton, 179, Lambeth-walk, Lambeth—Improvements in the fire-doors of furnaces.
3030. James Redgate, Edwin Ellis, and John Cropper, Nottingham—Improvements in bobbin net or twist lace machinery.
3032. George Davis, Clerkenwell—An improved name and business plate for the outsides of doors and windows.
3033. Edward Stanford, Charing cross, Westminster—An improvement in the manufacture of envelopes.
3034. William Beckett Johnson, Altrincham, Cheshire—Improvements in steam engines and in apparatus connected therewith.
3035. William Smith, 10, Salisbury-street, Adelphi—Certain improvements in railway rolling stock. (A communication.)
3036. Frederic Prince, 4, Trafalgar-square—Improvements in fire-arms.

Dated 23rd December, 1856.

3037. Joseph Sharp Bailey, Keighley, Yorkshire—Improvements in machinery for combing wool and other fibrous materials.
3038. William Spence, 50, Chancery-lane—Improvements in the manufacture of felt. (A communication.)
3039. James Robertson Dick, Alnwick, Northumberlandshire—Improvements in window sashes.
3040. William Edward Newton, 66, Chancery-lane—An improved mode of manufacturing capsules for containing medicines. (A communication.)
3041. William Edward Newton, 66, Chancery-lane—Certain improvements in meters for water and other liquids. (A communication.)
3042. John Anderson, Woolwich—Improved means of protecting floating batteries, ships, land batteries, martello towers, or other constructions, against shot or shell, or other projectiles.
3043. William Farrer Ecroyd and Jonathan Heywood, Marsden, Lancashire, and George Scarr, Burnley, Lancashire—Improvements in looms for weaving.
3044. James Lark, 5, Bridge-foot, Vauxhall-cross—Improvements in kilns for burning materials in the manufacture of lime and cements.
3045. Julien Louis Guillaume Bailly, King-square, Middlesex—Improvements in winding up or maintaining the power of clocks.
3047. Felix Dehaynin, Paris—Improvements in machinery for moulding and pressing artificial fuel and plastic substances, and for driving the same from the moulds.
3048. George Washington Van Abbott, Croydon—An improvement in bank notes, which is also applicable to share certificates and other similar documents.
3049. Alfred Heather, Portsmouth—Improvements in ferry boats.

Dated 24th December, 1856.

3050. William MacNaught, Manchester—Certain improvements in steam engines.
3051. Benjamin Goodfellow, Hyde, Cheshire—Improvements in the construction of steam boilers.
3052. William Macpherson, Manchester—Certain improvements in machinery for spinning and doubling cotton and other fibrous materials.
3053. Giuseppe Antonio Giovanni Nani, Sablonière Hotel, Leicester-square—Improvements in toys for the use of children.
3054. William Taylor, Nottingham—Improvements in producing various ornamental effects upon fabrics, paper, and other surfaces.
3055. James Samson Barraclough, Halifax, Yorkshire—Improvements in the means, machinery, or apparatus used for grinding dye-wares.
3058. John Elliott, Sunderland—Improved machinery for manufacturing rivets, bolts, spikes, and other similar articles.

Dated 26th December, 1856.

3061. Jacques Hostein, ainé, Bordeaux, France—An improved mechanism for stopping railway trains.
3062. David Macdonald, Glasgow—Improvements in washing, bleaching, cleansing, and preparing textile fabrics and materials.
3063. William Smith, 85, Margaret-street, Cavendish-square, and Donald Bethune, Cambridge-terrace, Hyde-park—Consuming or preventing smoke in chimnies and furnaces.
3065. William Irlam, Gibraltar Iron Works, Newton Heath, Manchester—Improvements in the construction of railway turn-tables and weighing cranes.
3066. Sidney Newburgh, Islington, and Charles Steinhart, Great Aile street, London—Improvements in keys and certain means for preventing the picking of locks. (A communication.)
3067. Frederick Campin, 156, Strand—The manufacture of a certain textile fabric, which the inventor terms "tissu buffle."—(A communication.)
3068. John Clay, Birmingham—A new or improved portable printing or impressing instrument.
3069. John McIntyre, Newcastle-upon-Tyne—A safety-sounding apparatus or alarum for sailing ships and steam vessels.
3070. Henry Horace Goodman, 1, Rue Grange Bateliere, Paris—Improvements in the construction of locks. (A communication.)
3071. William Lawrence Mitchell, 34, Albert-terrace, London-road, Southwark—Improvements in railway switch and signal apparatus.
3072. George Heppell, Uttoxeter, Staffordshire—An improved method of producing signals in railway trains by means of air.
3073. William Clarke Deeley, 3, Devonshire-terrace, Westbourne-terrace, Hyde-park—Improvements in reducing copper ores. (A communication.)
3074. William Clark, 53, Chancery-lane—Improvements in air and waterproof coatings, and in their application. (A communication.)

Dated 27th December, 1856.

3075. Richard Reeves Cox, Fareham, Hants—Improvements in the manufacture of artificial fuel, and in machinery for that purpose.
3077. William Edward Newton, 66, Chancery-lane—Improvements in sewing machines. (A communication.)
3078. Thomas Shaw, Ilkeston, Derbyshire—Improvements in furnaces or fireplaces.
3079. James Petrie and William Mc Naught, Rochdale—Improvements in steam-engines.
3080. Thomas Wilks Lord, Leeds—An improved mode of drying flax, tow, hemp, silk, cotton, and other yarn, in the process of dressing, warping, sizeing, beaming, and preparing yarn for weaving.
3081. William Swain, Birmingham—Improvements in heating and ventilating.
3082. George Ritchie, Ponsonby-street, Middlesex—Improvements in the manufacture of beds and mattresses.
3083. John Cheesman Wagstaff, Cannon-street, London—Improvements in the manufacture of felted cloth. (Partly a communication.)
3084. Isaac Atkin and Marmaduke Miller, Nottingham—Improvements in folding lace, paper, and other fabrics.
3085. Joseph Morel, Gap, France—Improvements in castors for fitting under the feet of tables, seats, and other similar pieces of household goods.

Dated 29th December, 1856.

3087. Horace Vaughn, Providence, Rhode Island, U.S.—An improved method of hardening and tempering steel, and of hardening cast and wrought iron.
3088. Joseph Henry George Wells, 45, Essex-street, Strand—Improvements in pumps and valves used therewith. (A communication.)
3089. Timothy Alden, New York, U.S.—Setting and distributing printing types.
3090. John James Speed, jun., and John Aylesworth Bailey, New York, U.S.—Improvements in the manufacture of seamless pipes and tubes.

Dated 30th December, 1856.

3092. Jean Louis Celestin Le François de Grainville, 39, Rue de l'Echiquier, Paris—Certain improvements in heating apparatus.
3094. Richard Archibald Brooman, 166, Fleet-street—Improvements in the construction of portable houses and other buildings. (A communication.)
3096. Richard Archibald Brooman, 166, Fleet-street—An improvement in sawing machinery. (A communication.)
3098. George Alfred Shaw, Dartmouth-row, Blackheath—An improved machine for thrashing and cleansing corn or grain. (A communication.)

Dated 31st December, 1856.

3100. Jean Omer Henry, 39, Rue de l'Echiquier, Paris—Certain improvements in the production of embossed surfaces on wood.
3102. William Bray, Folkstone—Improvements in traction engines.
3104. Alexander Robert Terry, 45, Bedford-row—Improvements in machinery for cutting sugar and other substances.
3106. William Charles Mann and Frederick John Ingram, East Parade, Leeds—An improved mode of embossing cloth or other fabrics.

WEEKLY LIST OF PATENTS SEALED.

January 9th.

1626. Moss Defries.
1631. John Marsh and John Catt.
1633. Samuel Hardacre.
1639. John Westwood.
1643. Edward Henry Cradock Monckton.
1646. Thomas Madely Hartwell, James William Gladwin, and Henry Gladwin.
1657. William Williams.
1697. John Hamilton.
2165. GeorgeTomlinsonBousfield.
2293. John Dauglish.
2359. Peter Ward.
2365. James Atkinson Longridge and Thomas Richardson.
2376. William Johnson.
2463. William Clay and Josiah Harris.
2493. John Dearman Dunnicliff and Walter Dexter.
2595. William Edward Wiley.
2597. James Fernihough and Robert Farrow.
2664. William Henry Balmain and Thomas Colby.

Patents on which the Third Year's Stamp Duty has been Paid.

January 5th.

224. BenjaminO'NealeStratford.
962. Andrew White Gibson.

January 6th.

47. Richard Albert Tilghman.
70. Marcel Vetillart.
101. George Fergusson Wilson.
102. George Fergusson Wilson.

January 7th.

39. Anthony Bernhard Baron Von Rathen.
48. Richard Husband.

January 8th.

45. Benjamin Burleigh.

January 9th.

56. Rev. William Renwick Bowditch.
60. Adolphe Drevelle.
67. Felix Lieven Bauwens.
109. Henry Holland.
212. Josiah Latimer Clark.
325. BenjaminHornbuckle Hine, Anthony John Mundella, and Luke Barton.
365. BenjaminHornbuckle Hine, Anthony John Mundellà, and William Onion.